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NOISE

**Toward  
a National  
Strategy  
for Noise  
Control**

QUIET



U.S. Environmental Protection Agency  
Office of Noise Abatement and Control  
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U.S. ENVIRONMENTAL PROTECTION AGENCY

TOWARD A NATIONAL STRATEGY FOR NOISE CONTROL

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TABLE OF CONTENTS

|  |     |
|--|-----|
| Preface . . . . .  | v   |
| Summary . . . . .  | vii |
| SECTION I - INTRODUCTION . . . . .                                   | 1   |
| Background Data . . . . .  | 1   |
| Purpose of Publishing this Document . . . . .                        | 2   |
| Nature of This Document . . . . .                                    | 3   |
| SECTION II - NATURE AND SCOPE OF THE NOISE PROBLEM . . . . .         | 5   |
| Effects of Noise . . . . .   | 5   |
| The Pervasiveness of Noise Exposure . . . . .                        | 6   |
| SECTION III - TOOLS AVAILABLE FOR THE CONTROL OF NOISE . . . . .     | 9   |
| Regulatory Measures to Control Noise . . . . .                       | 9   |
| SECTION IV - GOALS FOR THE NATIONAL EFFORT . . . . .                 | 13  |
| General and Specific Goals . . . . .                                 | 13  |
| SECTION V - RELATIVE EMPHASIS AMONG ALTERNATIVE APPROACHES . . . . . | 21  |
| Interrelationship of Specific Program Components . . . . .           | 21  |
| National Source Regulations and State and Local Programs . . . . .   | 22  |
| Labeling . . . . .   | 25  |
| SECTION VI - NATIONAL PROGRAMS . . . . .                             | 27  |
| Recommended National Programs . . . . .                              | 27  |
| The Role of Technology Research and Development . . . . .            | 29  |
| Development of Cost and Economic Impact Data . . . . .               | 33  |
| National Source Regulations . . . . .                                | 33  |
| State and Local Control Programs . . . . .                           | 38  |
| Labeling and Consumer Decision Making . . . . .                      | 41  |
| Community Awareness and Public Information . . . . .                 | 43  |
| Aircraft/Airport Noise . . . . .                                     | 43  |
| Enforcement . . . . .  | 46  |
| Other Federal Programs . . . . .                                     | 51  |

## PREFACE

This document is a revision of the October 1976 draft of Toward a National Strategy for Noise Abatement and Control. The draft was made available to the public for comment through a notice published in the Federal Register on November 10, 1976. The comment period closed on January 10, 1977. The Agency found that there was substantial agreement demonstrated by the comments with the general direction of the draft. For this reason fewer changes were necessary in this edition than expected, based on the volume of responses. Nevertheless, many comments were detailed, extensive, and challenging. EPA has endeavored in this revision to review and give recognition to those comments which could be answered or incorporated without considerable further study and research. There were, of course, complicated questions which were not feasible to resolve in a short period time. The more complex questions are addressed in an Addendum to this document which is entitled, Policy and Implementation Questions. These issues will be dealt with more substantively in the future. It is the Agency's intention to use this document as a stepping stone to the completion of a comprehensive noise strategy. The Agency will continue to seek public participation and involvement as the strategy is shaped.

## SUMMARY

This document has been developed to continue the dialogue on the overall goals of the noise program, the role of government, the role of consumers, and the role of industry in noise control, along with the selection of specific abatement and enforcement activities for EPA. It establishes a general framework for making decisions on the best strategy that EPA can employ to combat noise pollution. The primary goal of the Agency in the noise pollution area is to promote an environment for all Americans, free from noise that jeopardizes their health or welfare. In order to reach this legislatively mandated objective five specific operational goals have been formulated. These are:

- A. To take all practical steps to eliminate hearing loss resulting from noise exposure;
- B. To reduce environmental noise exposure to an Ldn value of no more than 75 dB immediately;
- C. To reduce noise exposure levels to Ldn 65 dB by vigorous regulatory and planning actions;
- D. To strive for an eventual reduction of noise levels to an Ldn of 55 dB; and
- E. To encourage and assist other Federal, State and local agencies in the adoption and implementation of long range noise control policies.

The complexity of the noise problem, combined with the large array of complementary control authorities, make possible a considerable number of alternative approaches to a national program. Numerous regulatory measures are available to control noise, although many of them have not yet been utilized to their full potential. The ultimate shape of the national noise control effort will be greatly influenced by the programmatic emphasis among three specific components of the program: (A) Federal noise emission regulations for new products; (B) State and local controls; and (C) Federal regulations requiring labeling of products. EPA's strategy for the implementation of the Noise Control Act in the first few years after its passage was to attack the most serious noise sources first and to meet the mandatory requirements for which the Act established specific deadlines. Specifically, top priority for the short term was placed on developing source standards for major sources of noise in the surface transportation and construction areas; producing the other documents with mandatory deadlines, such as the Airport/Aircraft Report, and the criteria and environmental noise level documents; and publishing the two interstate carrier regulations. Technical assistance, Federal program coordination, and labeling were given lower priority. EPA has now promulgated all standards and published all reports for which there were specific deadlines. Consequently, it has been possible for EPA to become more flexible and to broaden its approach to national noise control.

On the basis of the directives of the Noise Control Act of 1972, EPA's experience in the implementation of that Act, and the goals and policy considerations discussed in this document, EPA has designed a

program intended to maximize the effectiveness of the authority given to the agency, as well as to encourage other parties to use their authority effectively.

This strategy recognizes the essentiality of State and local programs, other Federal programs, and informed consumer choice through labeling for the national noise control effort. Increased efforts in these areas are therefore planned for FY 1977 and 1978. Starting in FY 1977, EPA began to shift resources and attention to other areas of the Noise Control Act which had not been emphasized previously. One major area of emphasis will be expanded assistance to State and local agencies, which is essential to provide more immediate relief from noise, to provide control of "nuisance" and other non-federally regulated sources of noise, and to assist in the enforcement of EPA standards.

Another area of increased activity is the coordination of Federal noise control and research programs. Emphasis will also be placed on the implementation of a labeling program. Labeling offers an alternative, or at least a desirable supplement, to Federal noise emission limits. Product labeling will offer consumers an opportunity to deal directly with noise pollution by enabling them to make informed choices.

Development of noise emission limits for appropriate sources will continue in the construction area and the surface transportation area. Additionally, EPA is examining other categories including household products and consumer products for possible emission regulations or labeling requirements.

SECTION I  
INTRODUCTION

BACKGROUND DATA

During the last several years, the abatement and control of noise has become a major area of activity in many sectors of American society as indicated by the following:

- A) During the late 1960's several agencies of the Federal Government spearheaded an effort to increase the country's activities in the area of noise control;
- B) In 1972, the Congress passed the Noise Control Act directing the U.S. Environmental Protection Agency to set national noise source standards and otherwise promote "an environment for all Americans, free from noise that jeopardizes their health or welfare;"
- C) Loss of hearing caused by occupational exposure to noise has become a major ground for workmen's compensation claims today. The prevalence of such noise-induced hearing loss has resulted in examination by the U.S. Occupational Safety and Health Administration of more stringent noise standards for the workplace, and in additional pressures on American industry to protect workers from noise;
- D) The number of State and local noise control programs have increased from 288 in 1973 to 665 in 1976;
- E) Noise control has become an increasingly important component of other Federal agencies' programs (e.g., the building of noise barriers has become a significant element of the Department of Transportation's National Highway Program);.
- F) In some cases, American industry is increasingly producing quieter products and is advertising "quiet" as a positive feature of its products;



G) In October 1976, President Ford approved a Federal Aviation Administration (FAA) proposal for retrofit or replacement of existing jet aircraft which do not meet the 1969 standards.

All this activity stems from a growing awareness of the adverse effects of noise on public health and welfare and from the realization that no single organization or group can alone provide the necessary relief. The abatement and control of noise is an extremely complex task that will require the coordinated efforts of all segments of society, and a national strategy must be designed and implemented to achieve this goal.

#### PURPOSE OF PUBLISHING THIS DOCUMENT

This document represents the continuation of the effort to define a unified national noise abatement and control strategy. It is hoped the details of the strategy will be improved and that the activities of all participating groups will begin to coalesce into a common effort.

The Environmental Protection Agency has only a portion of the authority necessary to carry out the national noise abatement effort. The Noise Control Act of 1972, however, directs EPA to serve as the coordinator of all the Federal Government's noise abatement activities and to give technical assistance to State and local agencies and to the general public. Therefore, it seems appropriate for EPA to take the lead in coordinating the preparation of a strategy and then to ask the other organizations and individuals concerned with noise control to assist in refining this strategy. This procedure is designed to develop a national dialogue, leading to an agreed-upon unified national strategy that will serve as a general guide for the major noise control activities in this country.

#### THE NATURE OF THIS DOCUMENT

In order to stimulate a national dialogue, EPA believes it is desirable that this general strategy be concise and non-technical. This document sets out in summary form the general principles by which the national effort should be guided, the division of responsibilities, and the areas of emphasis. It also identifies the major outstanding policy and implementation questions. The purpose of the document is to provide an overview rather than to supply the details of how the effort should be carried out. As a follow-up, EPA is developing for publication, a surface transportation strategy and will develop specific program strategies in several other areas (such as construction, household, and consumer products) in which more detailed activities will be discussed.

SECTION II  
NATURE AND SCOPE OF THE NOISE PROBLEM

EFFECTS OF NOISE

Noise, like other pollutants, is, to a very substantial degree a waste product generated by the activities of a modern industrialized society. It is defined in the EPA Report to the President and Congress on Noise (1972) as "any sound ... that may produce an undesired physiological or psychological effect in an individual ... or group." Noise is an extremely pervasive pollutant. In one form or at one time, noise adversely affects virtually the entire U.S. population.

Certain noise effects are well documented as follows:

- A) Noise can cause damage to the inner ear, resulting in permanent hearing loss that may range from mild to severe, depending upon the level and duration of exposure;
- B) Noise can interfere with spoken communication and with the enjoyment of watching television, or listening to the radio or phonograph;
- C) Noise can disturb and prevent sleep;
- D) Noise can disrupt learning and teaching activities as well as other activities that require mental concentration or spoken communication;
- E) Noise can be a source of annoyance;
- F) Even the detectability of man-made noise in pristine environments, such as national forests, may be of significant annoyance to people.

Other effects of noise are less well documented but may become increasingly important as more information is gathered. They include the non-auditory health effects (the "stress" diseases), the combined effects of noise with other pollutants, and adverse social and economic effects.

Annoyance caused by noise is a particularly complex phenomenon, governed by a composite of factors that vary from individual to individual, and from time to time. Although hard to quantify or predict, community annoyance caused by noise is very prevalent, and in many instances, it has provided a powerful impetus to the noise abatement movement. The Bureau of the Census' 1974 Annual Housing Survey found that although Americans in approximately four out of every five households felt that they lived in good or excellent neighborhoods, almost half (49 percent) considered their neighborhoods too noisy. In this survey, noise ranked first of all the undesirable conditions listed, surpassing many other factors that are usually considered to be significant in people's perception of the quality of their lives.

#### THE PERVASIVENESS OF NOISE EXPOSURE

Noise-induced hearing loss is a recognized problem in the highly mechanized industries, the military, and other high noise-exposure occupations. An estimated 14.7 million American workers are exposed to an  $Leq(8)^*$  of 75 decibels (dB) or greater, a level above which there is a risk of hearing damage. An additional 13.5 million Americans are estimated to be exposed to an  $Leq(8)$  of 75 (dB) or greater in transportation or recreational vehicles.

\*  $Leq$ , equivalent sound level, is the average energy level of sound over a given period of time. The period of time is shown in parenthesis, in this case, 8 hours.

Much less is known about the levels of noise associated with non-auditory health problems, but it is generally assumed (although not proven) that significant adverse effects do not occur below the noise level considered safe for the purposes of hearing conservation.

Noise levels above Ldn\* 55 dB may interfere with normal activities such as speech communication, sleep, relaxation, and privacy. An estimated 103 million Americans - virtually half the Nation's population - are exposed to an Ldn of 55 dB or greater.

Noise levels will increase significantly unless effective and coordinated Federal, State and local noise control programs are implemented.

For example:

- A) Urban noise intensities will increase roughly in proportion to growth in population density;
- B) A three-to-four fold increase is projected in the number of residents adjacent to freeways and major highways who will be exposed to noise levels of Ldn 65 dB or greater, by the year 2000;
- C) A 50 percent increase will occur in the number of person-hours of exposure to construction noise by the year 2000;
- D) Occupational hearing loss and other adverse effects can be expected to increase as the number of exposed workers increases.

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\* Ldn, day-night sound level, is the energy-averaged equivalent level (Leq) for 24 hours adjusted to include a 10 dB penalty for noise exposures during night-time hours (10 p.m. to 6 a.m.).

### SECTION III

#### TOOLS AVAILABLE FOR THE CONTROL OF NOISE

##### REGULATORY MEASURES TO CONTROL NOISE

Numerous regulatory measures are available to control noise, although many of them have not yet been utilized to their full potential. EPA already has promulgated regulations for interstate motor and rail carriers for new medium and heavy duty trucks, and portable air compressors. Proposed regulations will be issued in the spring of 1977 for motorcycles, buses, truck-mounted refrigeration units and solid waste compactors, and wheel and crawler tractors used as loaders and dozers. Proposed regulations for the labeling of hearing protectors will also be published in 1977.

The following are examples of regulatory controls:

A) Federal Government

1) Environmental Protection Agency

- o Regulations on the operation of interstate motor and rail carriers;
- o Regulations on new products that are major sources of noise, including such controls as anti-tampering, warranty, and useful life provisions;
- o Labeling of products that produce noise capable of adversely affecting public health or welfare, or products that are marketed for their noise attenuation characteristics;

- o Providing technical assistance to State and Local units of government desiring to develop and enforce noise abatement and control programs;
- o Public information dissemination to inform citizens of the hazards of noise to public health and welfare; and
- o Certification of Low Noise Emission Products.

2) Department of Transportation

- o Enforcement of EPA's interstate motor carrier and rail carrier noise emission standards (FHWA/FRA);
- o Procedures for abatement of highway noise and highway construction noise (FHWA);
- o Standards limiting in-cab truck and locomotive noise levels (FHWA/FRA);
- o Standards limiting shipboard crew noise levels (USCG);
- o Policies for land retention around audible aids to navigation (fog signals) (USCG);
- o Standards for railroad employee sleeping quarters (FRA);
- o Noise abatement features in; airport development and improvement (FAA); regulations controlling aviation noise; and grants to airports for noise planning; and
- o Noise specifications and design standards for bus and rail rapid transit systems (UMTA).

3) Department of Labor

- o Standards for control of occupational noise (OSHA).

- 4) Department of Interior
  - o Enforcement of noise standards in mines (MESA);
  - o Research, development and demonstration programs in mining equipment noise control (Bureau of Mines).
- 5) Housing and Urban Development
  - o Limitation of mortgage guarantees and assistance to housing and other noise sensitive uses in areas with high noise levels, such as near airports and major highways;
  - o Noise requirements in comprehensive planning.
- 6) Other Federal Agencies
  - o Development of noise control methodologies and requirements by Department of Defense, Department of the Interior, Department of Health, Education and Welfare, and the Department of Agriculture.
  - o Implement the purchase of low-noise emission products up to 25% premium; and
  - o Develop methods for abatement of noise at Federal facilities and from Federal equipment.
- B) State and Local Agency Regulatory Measures
  - 1) Permit programs (construction sites, manufacturing plants);
  - 2) Controls on use and operation of noisy products;
  - 3) Economic incentives (e.g., noise-related fees at airports, for motor vehicles, etc.);



- 4) Zoning;
  - 5) Property line standards;
  - 6) Curfews;
  - 7) Labeling;
  - 8) Enforcement of the above; and
  - 9) Regulation of large stationary sources such as power plants, cooling towers, etc.
- C) Consumers
- 1) Purchase of low-noise products.
- D) Industry
- 1) Reduction of occupational noise exposure;
  - 2) Production of quieter products; and
  - 3) Provision of noise information to purchasers of products.

Each of the above regulatory and program tools is exercised to varying degrees and with little coordination. If the tools were used together in a unified program, their effectiveness would be greatly enhanced.

SECTION IV  
GOALS FOR THE NATIONAL EFFORT

GENERAL AND SPECIFIC GOALS

The complexity of the noise problem combined with the vast array of complementary control authorities listed in the previous section, raises the prospect of a large number of alternative approaches to a national program. In order to give some structure to the strategy planning process, some tentative goals have been established for the program. Our purpose is to design the program around these goals and then to subject them to examination in this general strategy and in the specific program strategies to decide whether or not they remain reasonable. If further review and evaluation indicates they are reasonable, then timetables for their achievement can be established and the program monitored for progress toward achieving them.

Congress has stated a general goal in the Noise Control Act which we suggest for the entire noise control effort. Reference this general goal in the Noise Control Act of 1972, Section 2, as follows:

"To promote an environment for all Americans free from noise that jeopardizes their health or welfare."

In order to achieve this general goal, specific goals based on our knowledge of what levels of noise jeopardize health and welfare are needed. The following tentative specific goals are recommended:

- A) Take all practical steps to eliminate hearing loss as a significant consequence of noise exposure both in the workplace and in the general environment.

- B) Reduce environmental noise exposure of the population to an Ldn value of no more than 75 dB immediately, utilizing all available tools, except in those isolated cases where this would impose severe hardship. This will essentially eliminate risk of hearing loss due to environmental noise, and reduce the extreme annoyance and activity interference for the population most severely affected.
- C) Through vigorous regulatory and planning actions, reduce environmental noise exposure levels to Ldn 65\* dB or lower, and concurrently reduce noise annoyance and related activity interference caused by intrusive noises.
- D) In planning future programs concerned with or affecting environmental noise exposure, to the extent possible, aim for environmental noise levels that do not exceed an Ldn of 55 dB. This will ensure protection of the public health and welfare from all adverse effects of noise based on present knowledge.
- E) Encourage and assist Federal, State and local agencies in the adoption and implementation of a long-range noise control policy designed to prevent significant degradation of existing noise levels or exposure in designated areas. Such a "non-degradation" policy could be incorporated into land-use and development planning

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\* Technically, this should be expressed as Ldn=65, however, hereafter in this document it will be shown as Ldn 65 for purpose of simplification.

processes in an effort to reduce potential increases of noise levels or exposure in areas where quiet is at a premium, e.g., hospital zones, quiet residential areas, and wilderness areas.

The choice of these specific goals involves many value judgments, which should receive critical review. For instance, goal C specifically focuses on Ldn 65 dB rather than 55 dB. Although activity interference may occur as low as Ldn 55, the Agency believes the greatest emphasis of the noise control program should be on levels of noise of Ldn 65 and above until the problems of the higher levels are solved. Nevertheless, regulatory action to reduce levels below Ldn 65 will be necessary in some cases, and Ldn 55 should be the goal of future planning, especially since noise control is often so much easier to achieve if it is built in from the beginning.

EPA recognizes that it would take a long time to achieve a national environmental noise level of Ldn 55. In fact, it may be impossible and undesirable from the point of view of all our national needs to do so in all situations.

It must be emphasized that these are goals and are not intended as regulations, since EPA has no authority to regulate ambient noise levels. In promulgating specific source regulations, EPA does a thorough study of both the specific benefits to be achieved and the cost to society of achieving these benefits. These same costs and benefits will be examined in the development of specific program strategies in such areas as surface transportation and construction.

All the details of exactly how these goals can and should be achieved and the associated cost to society for the efforts as a whole remain to be developed. However, many of the details of the component programs have been developed. For some types of problems other than noise, the development of such a total strategy is relatively simple and can be done quickly. However, in an area as complex as noise, where there are so many unknowns and where very little in-depth planning has been done up to now, strategy planning must be an evolving and flexible process.

The strategy questions that should be answered in the noise area (and the alternatives available) occur on many different levels. Figure 1 illustrates one way in which these alternatives can be categorized. The more general choices are shown at the top of the triangle; the more concrete and specific ones are shown at the bottom.

This strategy document concentrates on the first four levels of choices shown in Figure 1. The specific program strategies to follow will deal with the choices shown on Levels V and VI. While the formal documentation of these specific program strategies is only now beginning to be developed within EPA, initial descriptions of three such program strategies--surface transportation, construction, and aviation,--can be found in other documents already published by the Agency.\*

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\*Surface Transportation: Identification of Major Sources, June 21, 1974, and May 28, 1975; Preamble and Background Document for New Heavy and Medium Truck Regulation, March 31, 1976.

Construction: Identification of Major Sources, June 21, 1974, May 28, 1975 and February 3, 1977; Preamble and Background Document for Portable Air Compressor Regulation.

Aviation: Report to Congress on Aircraft/Airport Noise, July 27, 1973; Preambles and Background Documents for proposed regulations sent to FAA under Section 7 of the Noise Control Act (December 6, 1974 through October 1, 1976). April 5, 1976 Speech of the Administrator to Inter-Noise '76.

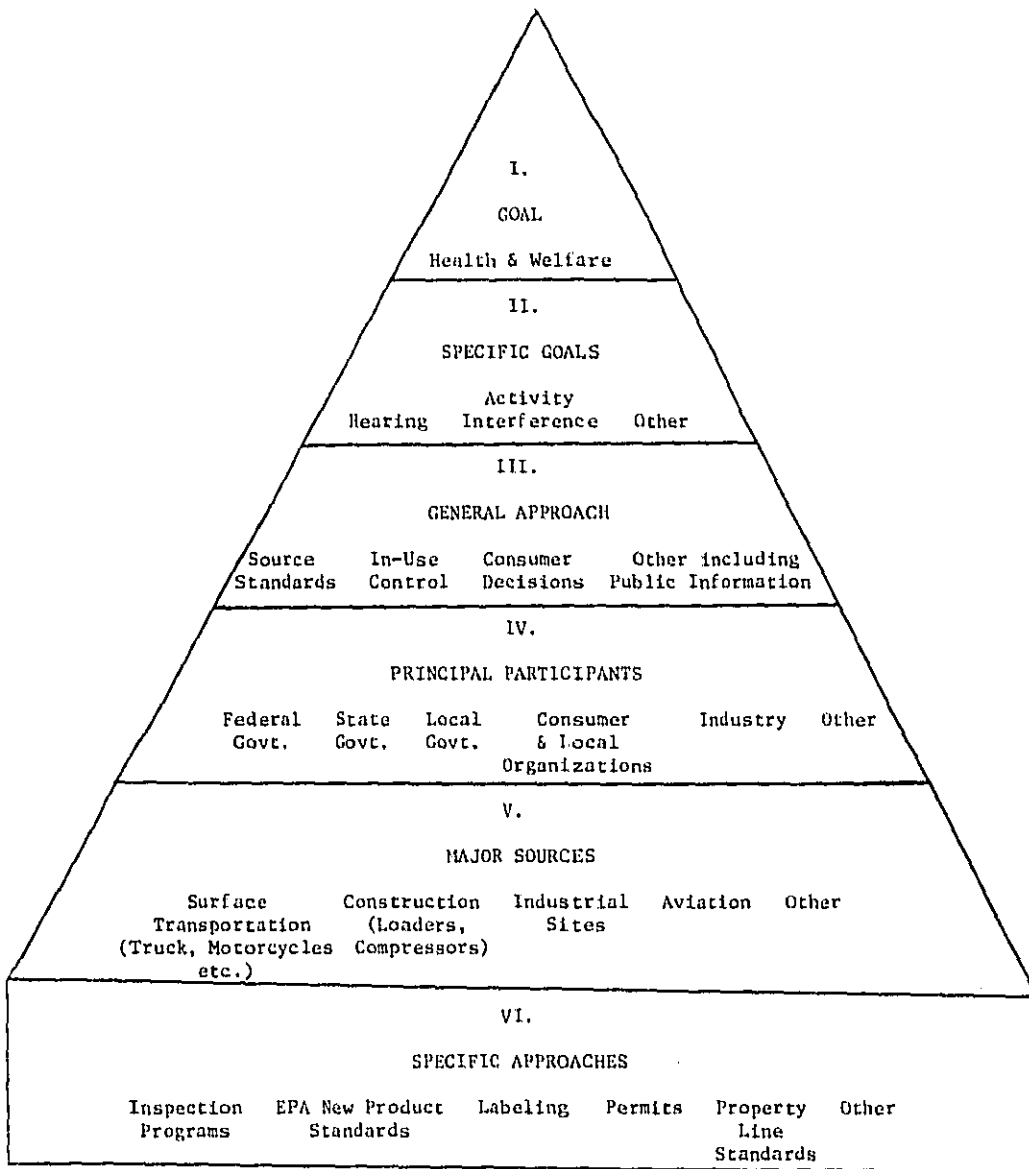


Figure 1.

In formulating a strategy for its own activities since the passage of the Noise Control Act of 1972, EPA has sought to use its finite noise control resources to achieve the maximum initial progress toward its goals. Most of its activities resulted from program decisions that flowed directly from the structure of the Noise Control Act and the legislative discussions that preceded the passage of that Act.

Specifically, EPA has:

- A) Published regulations for in-use control of interstate motor carriers, to reduce further escalation of the noise from these sources (goals B and C);
- B) Formally recommended to OSHA, under Section 4 of the Noise Control Act, that OSHA establish a stringent workplace standard to reduce substantially, noise exposure that is damaging workers' hearing (goal A);

Note: Although the new product regulatory provisions of the Noise Control Act could be used to some extent to eliminate hearing loss as a significant consequence of noise in the workplace, the authority under the Occupational Safety and Health Act seems the most effective means for this purpose.

- C) Began a process of establishing new product standards for the most serious contributors of noise to the environment, concentrating initially on those in surface transportation and construction (goals A, B, and C).

D) Recommended eleven regulatory proposals to the Federal Aviation Administration (goals B, C, and D).

To achieve its initial goals, EPA had to concentrate its finite noise control resources on these basic activities. As a consequence, EPA gave less emphasis to other authorities in the Act, and to important organizations in the Federal government and to State and local agencies who can and should play an important role in the total national effort. Now that these initial actions are completed or well under way, the Agency has reviewed its program and is attempting, with the resources available, to foster a more comprehensive and carefully integrated national program.



SECTION V  
RELATIVE EMPHASIS AMONG ALTERNATIVE APPROACHES

INTERRELATIONSHIP OF SPECIFIC PROGRAM COMPONENTS

The ultimate shape of the national noise control effort will be greatly influenced by the programmatic emphasis among three specific components of the program: (A) Federal noise emission regulations for new products, (B) State and local controls, and (C) Federal regulations requiring labeling of products. The relative emphasis given to each of these components of a national effort is an important issue because, to some extent, each component can substitute for the other two. In other words, a national strategy could be fashioned that placed almost all the emphasis on new product regulations and gave very little attention to State, local and consumer actions. Alternatively, Federal new product regulations could be given less emphasis, with State, local, and consumer actions filling at least part of the void.

For instance, if one were concerned with urban traffic noise, one could attempt to provide most of the needed control through new product regulations limiting the noise produced by new vehicles (trucks, motorcycles, buses, etc.) coming off the assembly line. Or, this approach could be supplemented and to some extent replaced by State and local controls limiting the noise emitted by these vehicles when they were being operated. As another alternative, consumers could be given information about the noise emitted by the specified model of vehicle which might result in market-induced noise control, and would substitute to some degree for the other two efforts.

The effectiveness of each of these components varies according to the product and the situation. For instance, the effectiveness of labeling would be much greater in cases where the buyer is also the person most adversely affected by the noise. In situations where the principal person affected is a third party, there is less incentive for the purchase of quieter products.

In many cases, it would not be beneficial to develop State and local programs to handle the problems caused by a single product. Consequently, general policy decisions should be made regarding the relative roles of Federal new product regulations, State and local controls, and labeling, in order to lay the groundwork for individual product-by-product decisions.

#### NATIONAL SOURCE REGULATIONS AND STATE AND LOCAL PROGRAMS

Since the passage of the 1972 Noise Control Act, EPA has focused its noise control resources on the development, promulgation, and enforcement of national source regulations, and has not emphasized assistance to State and local programs and labeling.

This strategy was appropriate during the beginning years because national source standards were (and still are) clearly needed, and because the Act places primary emphasis on them. Such standards are capable of producing significant noise reductions that, to a large degree, are not obtainable by other means, such as State and local controls and labeling. It now appears, however, to be time to initiate another phase in the national effort. National source regulations, specifically new product standards, must continue to be the major component of the Federal effort, and EPA has studies under way that will lead to such regulations for a number of additional products. (See Table I, Pages 36 and 37).

However, it is clear that the abatement and control of noise is such a complex process that new product regulations cannot provide for the degree of abatement and control necessary to achieve the goals discussed above. The growth in the quantity of a particular product in use, and degradation once it leaves the factory, combine to make the Federal new product regulations a necessary, but not totally sufficient, portion of a national noise control program. The problem is compounded by the fact that the EPA's new product standards will not actually produce a benefit until a substantial number of the old noisy products are replaced by the quieter new ones. For many products, this replacement cycle will take eight to ten years and in some cases much longer.

Therefore, EPA has concluded that strong State and local noise control programs are an essential element of the national noise control effort, particularly in the following areas:

- A) Enforcement of Federal new product regulations as an extension of the Federal enforcement program: The effectiveness of any new product standard after the product has left the factory is dependent on the enforcement of the provisions of the Federal regulations that cover the product - namely, the anti-tampering, warranty, and useful life provisions. For example, it is planned that the Federal standard for motorcycles will specify noise level requirements and labels for replacement exhaust systems. Without effective enforcement of these provisions,

the full effect of the rest of the regulation may be vitiated. EPA's enforcement of these provisions would be greatly assisted by an active field enforcement effort on the part of State and local governments.

B) Implementation of additional controls on the use and operation of products for which EPA has promulgated new product regulations.

Given our knowledge of technology today, it is impossible to set new standards for many products that would fully protect public health and welfare. These standards must be complemented by additional use and operational controls administered by State and local authorities. A multitude of control alternatives is available to these authorities, many of them beyond the normal reach of Federal authority. For instance, the effective enforcement of local ordinances controlling the time and place of off-road motorcycle operation would greatly enhance the effectiveness of any Federal requirements for noise level reductions at the time of manufacturing.

C) Achievement of immediate control of noise. National new product regulations are designed to bring relief in the long term. In-use and operational controls are essential to provide some immediate relief. Except in the case of air, rail, and motor interstate carriers, State and local agencies are the only levels of government with the authority to enforce this type of immediate control.

## LABELING

The use of labeling and associated consumer choice in the control of noise are also critical components of the national control effort. It is impractical and undesirable to establish Federal new product regulations for all products which are deemed to be "noisy." When the principal impact of a product is on the buyer or user rather than on third parties, labeling may prove to be as effective a regulatory approach as the promulgation of a new product standard. The consuming public is beginning to request quieter products as they sense noise intrusion. If easily understood noise comparison information could be provided to the consuming public in the form of a simple label, consumers could choose quieter products when quiet is important to them. Labeling of certain products, including those with third-party effects, may also enable State and local agencies to implement simpler control programs related to the label. For instance, a community could prohibit the use of a product emitting more than X dB in certain sensitive areas, and this prohibition could be enforced without the use of a sound level meter by simple examination of the label.

In the coming years, EPA plans to continue its emphasis on new product regulations, and also to increase its work on assistance to State and local noise control programs and, relying to a lesser extent, on labeling.

In determining the appropriate mix of Federal, State, local, and consumer tools to use in specific cases, EPA will consider:

- A) The relative effectiveness of the various tools in meeting the goals of the national program;

- B) The need for national uniformity where products cross State lines and where differing standards applicable to manufacturers would be unduly disruptive;
- C) The Agency's general preference for the control of problems at the State or local level rather than the Federal, where it is feasible;
- D) The Agency's general preference for the allocation of national resources by the marketplace rather than through Federal regulations, if the marketplace can be sufficiently effective; and
- E) The need to provide immediate relief from some of the more serious noise problems while working on long-range solutions to the rest of the problems.

SECTION VI  
NATIONAL PROGRAMS

RECOMMENDED NATIONAL PROGRAM

On the basis of the directives of the Noise Control Act of 1972, EPA's experience in the implementation of that Act, and the goals and policy considerations discussed above, EPA has designed a program intended to maximize the effectiveness of the authority given to the agency, as well as to encourage other parties to use their authority effectively. This section of the document sets forth EPA's program in summary fashion. The program represents the present thinking of the Agency, but is subject to modification as the national strategy evolves or as additional Federal legislation is enacted. This description of the program is focused primarily on EPA activities. However, on the basis of comments and contributions submitted during the review period for this document, EPA has expanded this section somewhat to include more comprehensive description of noise control activities of other organizations. It is clear that the roles and contributions of other Federal agencies, State and local agencies, manufacturers and consumers still needs considerable delineation.

The national program is discussed below under the following categories:

- A) Health and Welfare Investigations
- B) The Role of Technology Research and Demonstration
- C) Cost and Economic Impact Data
- D) National Source Standards
- E) State and Local Control Programs

- F) Labeling and Consumer Decision Making
- G) Community Awareness and Public Information
- H) Aircraft/Airport Noise
- I) Enforcement
- J) Other Federal Programs
- A) Health and Welfare Investigations

The Noise Control Act places great emphasis on the protection of public health and welfare as the primary purpose of Federal action to control noise. One of the first actions under the Noise Control Act, was two documents EPA developed and published on this subject. First, the Criteria Document,\* set forth a summary of all the information then known about the effects of noise on public health and welfare. The other, known as the "Levels Document,"\*\* further refines noise effects criteria and uses this information to derive levels protective of public health and welfare with an adequate margin of safety. When combined with data on technical feasibility and costs, this information forms the framework for regulatory decision-making. EPA plans to revise and update the Criteria and Levels documents to reflect the most recent information concerning the effects of noise. Based on studies and investigations, currently underway, it is expected that issuances on the following topics will occur beginning in FY 1978: (A) The effects of noise on the cardiovascular system, sleep disturbance, speech disruption, intrusiveness, and wildlife, (B) community annoyance related to levels of exposure; and (C) new information on noise induced hearing loss.

\* Public Health and Welfare Criteria, July 1973 (#550/9-73-002).

\*\*Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With An Adequate Margin of Safety, March 1974 (#550/0-74-004).



EPA is now assessing the most pressing health and welfare information needs in the context of its present and projected regulatory actions. The Agency has convened a Federal interagency research panel on health and welfare effects to assess the research programs and priorities of other Federal agencies and then to plan a coordinated research program to address the most pressing needs. When these studies are completed in the Spring of 1977, EPA, in coordination with other agencies, will re-evaluate its role on health and welfare effects research. In the past, EPA has depended on other agencies and organizations to carry out the requisite research in this area because of finite resources. Discussions have also been held with members of the scientific community on this same subject.

B) The Role of Technology Research and Demonstration

It is generally accepted that the most cost-effective method of reducing noise is to control it at the source. In other words, noise reduction should be an intrinsic design criterion in the pre-development phase of any new product. The apparent lack of technological means of controlling noise from specific products is proving to be a constraint in establishing national source standards that can provide the desired level of protection of the public health and welfare. The noise reduction benefits to be derived from technological developments are directly related to the state-of-the-art of the available technology and the speed in which it can be incorporated into production hardware.

The primary responsibility for developing this technology should rest with the industry; however, investment by the Federal Government in technology development, particularly in the demonstration stage, is

needed in some cases to help bring new technology into the marketplace, or to stimulate industry development. In the area of noise technology, the Federal Government's efforts have been focused primarily on aviation and secondarily on surface transportation. EPA has recently reconvened three interagency noise technology research panels (surface transportation, aviation, and machinery) to review the status of Federal research in noise abatement and control, assess priorities, and develop a cooperative research plan for the future. The Federal Agencies represented on these panels include National Aeronautics and Space Administration (NASA), Department of Defense (DOD), Department of Transportation (DOT) (including the functional administrations within DOT, i.e., Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), and Urban Mass Transit Authority (UMTA)), Department of Interior (DOI) (Bureau of Mines), Department of Commerce (DOC) (National Bureau of Standards), Department of Health, Education and Welfare (DHEW) (National Institute of Occupational Safety and Health (NIOSH), Department of Housing and Urban Development (HUD), and the Energy Research and Development Administration (ERDA).

Even if new technology is developed there is no assurance that it will be incorporated into new products. The most effective way to ensure that it will be is through regulatory action. One cannot expect a manufacturer, operating in a competitive environment, to do more than that which is minimally required to maintain or increase his market position. Only when all of the competitors are required to meet comparable

standards, can significant environmental progress be made in an equitable fashion. The guidance provided to the manufacturers in the form of regulations reflecting the implementation of "enabling" technology will provide the manufacturers with the necessary leadtime to adjust their design and production process to meet market and environmental requirements.

There are at least two approaches for regulating the noise of new products:

- 1) Putting a lid on the allowable noise limits of all new products, based upon available, demonstrated technology as it is applied to some products in production and operational use, in some industries. The same technology may be equally applicable to other products in other industries. This, in effect, prevents an escalation of single-event noise in the environment, as additional products enter the market place.
- 2) The establishment of noise targets for products or equipment to be produced in the future. These targets would be based upon demonstrations of components or systems that are not yet in production. As the technology development programs proceed, the targets may be modified to be more, or less, stringent as indicated by the "enabling" technology.

EPA has adopted both of these approaches in its program.

The objectives of the technology program are to:

- 1) Illuminate the state-of-the-art of available technology to provide the basis for Federal, State and local regulatory actions that limit the allowable noise of products identified as requiring noise control actions.
- 2) Ensure the availability of an advanced technology base to permit the gradual reduction of allowable source noise on a timely basis.

These short and long range objectives will be implemented by:

- 1) Establishing and implementing an effective Federal coordination program to identify on-going noise research, development and demonstration programs and to assess their contribution to meeting the National Noise Control Strategy objectives. In addition to the Federally sponsored noise research activities, privately funded industry and university noise research will be included in a comprehensive assessment.
- 2) Identifying noise research needs that are currently underfunded or nonexistent in order to expand the required technology base for future regulatory action. This will include participation in joint research component or system technology demonstration programs as required, both domestically and internationally. One joint project already underway is the EPA/DOT demonstration program concerned with noise reduction of heavy duty trucks.
- 3) Encouraging the transfer and use of technology developments across product and industry lines.

C) Development of Cost and Economic Impact Data

The Noise Control Act requires the Administrator to take the cost of compliance into account when promulgating standards. Data are collected for each new product regulation on the cost of meeting various alternative noise control levels and on the impact of these costs on the affected industry and in the marketplace. The results of these studies are published in the background document issued with each regulation. In order to assist in the analysis of these impacts, EPA is developing improved forecasting techniques, and accounting and finance models.

Assigning dollar values to benefits achieved by noise reduction is an extremely complex procedure, which EPA has not attempted in its presentation of noise regulations. Some economic measures which have been suggested as proxies for noise benefits are land value changes, settlement values of legal suits on noise, and workman's compensation benefits. However, each of these dollar figures has an extremely wide range. Rather than assigning dollar values, EPA has stated its noise benefits in health and welfare terms.

D) National Source Regulations

Except in the area of aviation, the Noise Control Act of 1972 leaves to the judgment of the Administrator the identification of the limits on product noise emissions that are necessary to protect the public health and welfare, taking into account the extent and conditions of use of the particular product (alone or in combination with other noise sources), the degree of noise reduction achievable through the application of the best available technology, and the cost of compliance. Potentially, several thousand classes of products come within the Administrator's authority to prescribe regulations for new products.

The essential data required for setting national source standards for noise control are limited. The setting of a national noise source standard requires the collection and analysis of data (most of it never developed or accumulated before) on such factors as; the contribution of the particular product to noise exposure resulting in adverse health and welfare effects; the technology available to control that product; the cost of applying that technology to control the noise; the impact of the regulation on the economy (including effects on employment and inflation); and the alternative ways of controlling the noise from the product.

By reviewing groups of products in terms of the health and welfare goals of the national program, EPA selected new medium and heavy trucks (in the surface transportation category) and portable air compressors (in the construction equipment category) as initial new products to be regulated. The intent of these regulatory actions was to set limits on the noisiest items of transportation and construction equipment at the earliest possible date.\*

In a multiple source noise environment, such as that associated with construction sites, it is necessary to quiet many major sources to achieve a significant reduction of site noise level. To this end, present regulation development activities are directed toward such products as wheel and crawler tractors, to supplement the regulations already published for portable air compressors and trucks (including dump trucks, cement mixers and other construction related trucks).

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\* The specific basis for these and later choices of products to regulate under EPA's new product standards authority are given in Identification of Major Sources, June 21, 1974, May 28, 1975, January 12, 1977, and February 3, 1977.

Similarly, in the surface transportation category, regulation development activities are currently underway for buses, motorcycles, truck mounted solid waste compactors, and truck mounted refrigeration units. Concurrent with the above regulation development actions, EPA is conducting in-depth studies of the contributions that automobiles, light trucks, and guided mass transit systems make to the total noise environment.

Vehicular replacement components, which are critical for prevention of increased noise emissions, are also possible subjects of regulation. Two principal replacement components currently under study are tires and muffler/exhaust systems.

The United States is not, of course, alone in developing noise abatement strategies involving noise standards. Many other countries are similarly pursuing the goal of providing a satisfactory noise environment for their citizens. To maintain uniformity in international commerce the EPA believes that it is necessary to cooperate with other nations in the harmonization of noise standards and measurement procedures for products where it is considered desirable and possible. EPA will maintain a continuous technical liaison with these other nations. Acknowledging the necessity of these actions, however, does not imply that EPA will sacrifice the stringency of its own noise standards, unless a case-by-case review indicates that the benefits of such a sacrifice would outweigh the disadvantages.

Table I shows EPA's present plans in the new product standards area.

Table I  
New Product Regulations

|   | Completed | Proposal to be<br>Published in<br>Spring 1977* | Proposal to be<br>Published in<br>Spring 1978 | If, Initiated, Proposal<br>Would be Published Not<br>Later Than Early 1979* |
|---|-----------|--|---|---|
| <u>FORMAL REGULATORY ACTION BEGUN</u>                           |           |  |   |   |
| Interstate Motor Carriers<br>(in-use standard)                  | X         |  |   |   |
| Interstate Rail Carriers<br>(in-use standard and new equipment) | X         |  |   |   |
| Portable Air Compressors  | X         |  |   |   |
| Portable Air Compressors (LNEP)                                 |           | X**  |   |   |
| Medium and Heavy Trucks   | X         |  |   |   |
| Medium and Heavy Trucks (LNEP)                                  |           | X**  |   |   |
| Motorcycles (including replacement/<br>exhaust system labeling) |           | X  |   |   |
| Buses   |           | X  |   |   |
| Truck-Mounted Solid Waste Compactors                            |           | X  |   |   |
| Truck-Mounted Refrigeration Units                               |           | X  |   |   |
| Wheeled and Crawler Loaders                                     |           | X  |   |   |
| Labeling--Hearing Protectors and<br>General Provisions          |           | X  |   |   |
| Wheeled and Crawler Dozers                                      |           | X  |   |   |
| Pavement Breakers and Rock Drills                               |           |  | X   |   |
| Powered Lawnmowers  |           |  | X   |   |

\*It usually takes approximately twelve months for the final regulation to be promulgated after the publication of the proposal in the Federal Register. The actual effective date for industry compliance usually occurs a year or more after the promulgation of the final standard.

\*\*Published in the Federal Register May 27, 1977.



Table 1 (cont'd.)

|  | Completed | Proposal to be<br>Published in<br>Spring 1977* | Proposal to be<br>Published in<br>Spring 1978 | If, Initiated, Proposal<br>Would be Published Not<br>Later Than Early 1979* |
|--|-----------|--|---|---|
| <u>PRODUCTS BEING CONSIDERED FOR<br/>INITIATION OF STANDARD-SETTING<br/>PROCESS IN NEAR FUTURE</u> |           |  |   |   |
| Muffler Labeling   |           |  |   | X   |
| Automobiles and Light Trucks   |           |  |   | X   |
| Tires  |           |  |   | X   |
| Chain Saws   |           |  |   | X   |
| Guided Mass Transit Equipment  |           |  |   | X   |
| Air Conditioners   |           |  |   | X   |
| Earthmoving Equipment  |           |  |   | X   |
| <u>INTERSTATE MOTOR CARRIER<br/>REGULATIONS REVISIONS</u>  |           |  |   |   |
|  |           |  |   | X   |

\*It usually takes approximately twelve months for the final regulation to be promulgated after the publication of the proposal in the Federal Register. The actual effective date for industry compliance usually occurs a year or more after the promulgation of the final standard.

E) State and Local Control Programs

There has been an increase in State and local programs for noise control over the past several years, although in many communities recent budget crises have restricted the growth of programs and in some cases have led to their termination.

These State and local programs are highly varied in their scope and level of activity, but a large number are focused on the abatement of noise from surface transportation, the enforcement of laws prohibiting the intrusion of noise above certain levels across property lines, and the resolution of general nuisance problems.

Unlike similar Federal environmental legislation, the Noise Control Act places no specific requirements upon State and local governments. Except as limited by certain Federal preemption provisions of the Act, full discretion is left to these governments as to whether to become involved in noise control, and as to what degree. Moreover, assistance from the Federal Government is limited to technical assistance; there are no grants to help fund local programs.

The actual delivery of person-to-person technical assistance by the Federal Government is a manpower-intensive activity. Because of limited personnel resources in the noise program, EPA has concentrated its efforts on producing general guidance documents such as model laws and ordinances, and on conducting technical workshops for State and local officials. These approaches have been reasonably effective in documenting and communicating the combined knowledge of the relatively few individuals and groups around the country who deal with

the noise problem on the local level. However, with the increase in the number of communities initiating noise programs, and with the need to solve problems of actual implementation and enforcement, it is necessary to find new ways to assist communities.

Consequently, EPA has designed a new approach to the delivery of noise control technical assistance to State and local communities. This approach will be implemented in a phased manner over the next several years as resources allow. The new effort is composed of two related programs: the Quiet Communities Program (QCP) and the ECHO (Each Community Helps Others) Program. The Quiet Communities Program plans to select a limited number of test communities around the country and establish an intensive and close working relationship between EPA's Regional Offices and those communities in the development of either a comprehensive noise control program or a program in one of several different alternative functional areas, such as construction site noise, motor vehicle noise, boundary line standards, or railroad noise. These test projects would be carefully evaluated and documented with regard to both success and failure in order to serve as guides for the future efforts of other communities.

Under the ECHO program, EPA will assist these communities, as well as other communities, with well-developed and successful noise control programs, to provide direct, person-to-person technical assistance to other communities with similar problems. ECHO utilizes the willingness of some communities to proceed with the establishment of strong noise control programs without Federal grant assistance and capitalizes on the strong affinity that exists among local levels of government.

The two programs recognize the need to make the maximum use of personnel experienced in noise control, no matter where they are located, in order to improve the magnitude and quality of the noise control effort at the State and local level. They also recognize that the Federal Government does not have, and may never have, enough personnel resources to provide extensive person-to-person technical assistance in the noise control area.

In preparation for this new approach, EPA will produce during FY 1977 a series of technical assistance and public education materials to serve as the basis for the Quiet Communities and ECHO Programs.

To complement this effort, EPA is also developing methodologies and guides that will assess environmental noise levels and trends more accurately. State and local governments will then be in a better position to evaluate their noise problems and determine the effectiveness of programs designed to solve these problems. A limited Federal effort to collect assessment data on a national basis will also be carried out.

F) Labeling and Consumer Decision Making

The Noise Control Act directs EPA to label products falling into two categories:

- 1) Products that are capable of adversely affecting public and welfare; and
- 2) Products sold wholly or in part on the basis of their effectiveness in reducing noise.

The intent of the Agency's product noise labeling program under Section 8 of the Noise Control Act, is to provide accurate, uniform, and readily understandable information concerning the noise generating and noise reducing qualities of specific products to potential purchasers and end users in a manner minimizing Federal involvement. The program will be initiated in as simplified a form as possible and, along with its effects, be continually evaluated as to the need for revisions to the various elements of the regulatory approach being taken.

The program will utilize a regulatory structure consisting of both general and product specific provisions. The Agency has recently completed the development of the general provisions, which contain basic labeling requirements, such as minimum label information content, format, graphical design, and guidelines concerning the acoustic descriptors and rating schemes to be utilized. These proposed provisions will be made available to the public for their comment in the Spring of 1977.

Product specific labeling provisions will be promulgated as additional subparts of the general labeling regulation, and will contain requirements concerning label size and location, rating scheme specifications, test methodologies and enforcement procedures.

The first product specific regulation will be for hearing protective devices and will be proposed concurrently with the general provisions in the spring of 1977. The selection and prioritization of products for future labeling action is dependent upon the results of studies currently underway. EPA has recently awarded contracts for technical support for the assessment of various products and classes of products to identify principal candidates on the basis of their acoustical properties, typical use environments, usage cycles, health or welfare impacts, and their eligibility for regulatory action under Section 6 of the Act. Also included in these studies are (A) audience analysis, through surveys of public preference for and the effectiveness of various approaches to labeling format, content, and graphical design, (B) analysis of the potential economic impact of proposed labeling requirements for a representative range of products and industries likely to be regulated under Section 8, and (C) the analysis of the appropriateness of various acoustic descriptors and rating schemes for the same representative range of product and industries.

The products being considered for noise labeling action are: household appliances (of particular interest are blenders, vacuum cleaners, air conditioners, and dishwashers), home shop tools, powered lawn care equipment, and acoustical tiles and building materials. Studies are also being initiated for tires and mufflers, and it is planned that the Federal standard for motorcycles will include a requirement for muffler/exhaust system labeling. In addition, studies are completed and a decision will be made shortly as to the possible labeling of snowmobiles.

G) Community Awareness and Public Information

Clearly, labels on products will only be as effective as the public's understanding of the information communicated. It is therefore essential to a successful labeling program that the public be made aware of the inherent detrimental effects of noise on their health and welfare. For this reason product labeling should be preceded by an effective educational effort to inform the public of the intent and meaning of "noise labels."

The Agency is now in the process of planning such a program.

H) Aircraft/Airport Noise

The Federal Aviation Administration (FAA) has the authority and responsibility to control aircraft noise by the regulation of source emissions, by flight operational procedures, and by management of the air traffic control system and navigable airspace in ways that minimize noise impact on residential areas, consistent with the highest standards of safety. The Federal Aviation Administration (FAA) also provides financial and technical assistance to airport proprietors for noise reduction planning and abatement activities, and, working with the private sector, conducts continuing research into noise abatement technology.

Under the Noise Control Act, EPA has a special role in the area of aircraft/airport noise. EPA is required to propose to the FAA those regulations which EPA believes to be requisite to protect the public

health and welfare from aviation noise. The FAA must then respond either by concurring or by explaining its disagreement with the proposal. EPA has sent eleven such proposals to the FAA.

FAA has prescribed EPA proposals on:

- 1) Reduced flap setting noise abatement approach for turbojets;
- 2) Civil subsonic turbojet engine-powered airplanes noise retrofit requirements (except for business jets).

FAA has chosen not to promulgate the following EPA proposals:

- 1) Propeller driven small airplanes (except for several minor provisions);
- 2) Minimum altitudes for turbojets;
- 3) Fleet noise levels requirements;
- 4) Visual two-segment approach; and
- 5) Two segment ILS approach.

FAA has not responded (beyond holding public hearings) to the EPA proposed regulations on supersonic transports, modifications to FAR Part 36, and airport planning.

The FAA's retrofit-replacement proposal accepted by President Ford in November was issued by the Federal Aviation Administration December 23 (41 FR 56046). This rule applies to about 1,600 noisy subsonic aircraft that do not now meet 1969 FAR Part 36 noise standards.

Under the timetable contained in the rule, airplanes must comply with FAR Part 36 according to the following schedule:



- 1) By January 1, 1981: At least one quarter of an air carrier's 707's and DC-8's and at least one half of a carrier's 727's, 737's, DC-9's, and early 747's;
- 2) By January 1, 1983: At least one half of the carrier's 707's and DC-8's and all other airplanes; and
- 3) By January 1, 1985: All airplanes.

Under the new authority granted in the 1976 Amendments to the Airport and Airway Development Act, the FAA plans to establish a high priority for the allocation of discretionary Airport and Airway Trust Funds for airport land acquisition to ensure compatible use of land near airports, the purchase of noise suppressant equipment, the construction of physical barriers and other noise reduction activities.

Much of the solution to the problem of aircraft/airport noise is institutional rather than technological. A substantial portion of the problem can be solved if the parties involved--aircraft manufacturers, air carriers, pilots, airports, local communities and various agencies of the Federal Government would work cooperatively.\*

The proposals which EPA has submitted to the FAA are designed to abate aviation noise on a nationwide basis. However, many of the abatement solutions are to be applied on an airport-by-airport basis because site-specific solutions are necessary once the Federal Government has acted on a national basis.

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\* EPA's assessment of the nature, causes, and remedies of the aviation noise problem was summarized in an April 5, 1976, speech by Administrator Russell Train on Aviation Noise which is available upon request.

EPA has developed a systematic noise abatement planning process that can be applied at individual airports. The process reduces complex technical data into a format that is understandable and usable in its end form by persons in the community who are not technically trained in aviation noise abatement. The process therefore makes possible the much needed dialogue between the airport operator, the citizens living immediately around the airport, those who use the airport (both airlines and local industries), local governments, and land use planners. EPA is now working with airport proprietors at a number of airports to demonstrate the implementation of this planning methodology. This effort should result in several airport noise abatement plans which will demonstrate significant relief from local aviation noise problems and the utility of the planning process for airport noise problems.

I) Enforcement

Enforcement is a necessary part of any national program to abate and control noise. Because noise control may increase the cost of regulated products, though often by only a small amount, those who choose not to comply with the standard may gain a competitive economic advantage over those who comply in good faith. In addition, even a few noisy non-complying products can undermine the control effort in a local community, since individual intrusive noise events, even if small in number, can be a significant source of community annoyance.

As with the other components of the national noise control program, an effective enforcement effort requires the integration of Federal, State, and local activities. The success of the noise control program

requires in the first instance some level of visible and effective Federal enforcement at the new product stage. With an established level of enforcement at the Federal level directed at the manufacturers as a starting point, the States will be encouraged to establish their own enforcement programs to assure that owners of the regulated products operate and maintain them so as to preserve the noise control characteristics of the products. State and local agencies may assist EPA in enforcing the Federal requirements for warranty, maintenance instructions, labeling and anti-tampering. Without an effective Federal program directed at the product manufacturers, the likelihood and potential effectiveness of substantial State participation in enforcement of the in-use program would be diminished.

EPA has developed an enforcement plan for the first two national source standards: medium and heavy duty trucks and portable air compressors. The enforcement plan for future products must be individually tailored to the special circumstances of the particular industry; nevertheless, the truck and portable air compressor enforcement plan will serve as a prototype for future new product enforcement activities. The plan consists of the following three primary elements: product verification, selective enforcement auditing, and in-use controls. Product verification (PV) is the testing by a manufacturer (or by EPA at the option of EPA) of early production models to verify the manufacturer's ability to comply with the regulation prior to substantial distribution of the products into commerce. Manufacturers are required to submit the PV test results to EPA prior to distribution of the products in commerce.

Selective enforcement auditing (SEA) is the testing by a manufacturer or by EPA, pursuant to an administrative request, of a statistical sample of products from a particular category or configuration to determine whether those products conform to the noise standards, and to provide the basis for further enforcement actions, such as recall and cease-to-distribute orders, in the case of nonconformity.

The essential feature of this enforcement strategy is that it requires no action by EPA (e.g., no issuance of a certificate or permit) before a manufacturer may proceed to market his products if his products conform to the noise emission standards. The plan requires a manufacturer to do a minimal amount of testing and provides mechanisms by which EPA can monitor or remedy non-compliance with standards. The strategy seeks to maximize deterrence to the production of non-complying products while minimizing Federal involvement. Moreover, the level of EPA enforcement resource commitment can change in response to perceived levels of compliance/non-compliance without restructuring or reissuing regulations.

A very important feature of the Federal enforcement program is the EPA Noise Enforcement Facility (which is located outside of Sandusky, Ohio). The ability of EPA to perform tests using the regulatory measurement methodology is an indispensable part of the enforcement strategy. Without that ability, the Agency is left in the position of depending on the efforts of others to interpret the performance standard. It is not essential for the Agency to conduct all emission testing. However, some Federal testing by the Noise Enforcement Facility will permit EPA to monitor and reassess

baseline technology and enforcement measurement methodology. The product manufacturer should be required to perform the bulk of the compliance testing. However, testing upon which the ultimate determination of compliance will be based must be conducted by the Agency.

EPA's authority to control products in use includes the responsibility to promulgate regulations regarding manufacturers' warranties, anti-tampering provisions, maintenance instructions, and labeling requirements. The Act requires that the manufacturer of each new product regulated by EPA shall warrant to the consumer that, at the time of sale, the product conforms to the noise regulations. The Act also prohibits the removal of any noise-attenuating device from a new product and the use of a new product after such removal or tampering. The EPA truck and portable air compressor regulations require that the manufacturer affix a label to each product, indicating, among other things, that the product conforms to the EPA noise emission regulations. These regulations also require that the manufacturer provide with each new product a set of instructions for proper maintenance, use, and repair in order to minimize the degradation of the noise emission reduction features of the product. In addition, EPA plans to promulgate and enforce regulations, which will require labels for some products. Moreover, EPA will encourage States and localities to assist the field enforcement of these in-use regulations.

Under the Noise Control Act, States and localities may promulgate source regulations for any product not regulated by EPA. This will be unnecessary in most cases since the State and local governments will have authority to deal effectively with localized problems through use controls. For new products that EPA has regulated the State and local governments may

adopt and enforce regulations identical to EPA's regulations. Existing State and local new product regulations that are different from the Federal standards are automatically preempted on the effective date of the Federal regulations.

In addition, EPA has promulgated noise emission standards for interstate motor carriers and railroads. The U.S. Department of Transportation has the primary responsibility to enforce these two sets of standards. The Bureau of Motor Carrier Safety is currently enforcing the motor carrier compliance regulations, which became effective on October 15, 1975. The Federal Railroad Administration will promulgate compliance regulations to enforce EPA's railroad noise regulations, which became effective December 31, 1976. EPA and DOT will continue to cooperate in monitoring the level of compliance and the effectiveness of the total program.

Moreover, State and local governments may adopt and enforce interstate railroad and motor carrier noise emission standards if they are identical to the Federal standards. In addition, upon application by a State or local jurisdiction, the Administrator of EPA may grant a waiver of this Federal preemption and permit additional State and local controls on noise from these two sources if the Administrator determines that such controls are necessitated by special local conditions and are judged to be not in conflict with applicable Federal regulations.

In addition, as discussed above, State and local jurisdictions have extensive authority to establish and enforce controls on environmental noise through the licensing, regulation, or restriction of the use, operation or movement of noise sources.

J) Other Federal Programs

The noise-related roles and activities of agencies within the Federal Government are varied and complex. For example, regulatory and grant authorities include those that have specific mandates to control noise, as well as those whose mandates fall under more general environmental quality control legislation. In both cases, programs administered under such authorities should, to the extent feasible, protect the public from noise levels that affect their health and welfare. In addition, these programs should be mutually supportive and consistent with the national goals for the abatement and control of noise.

The Federal Government owns and operates a significant number of mobile and stationary noise sources that impact communities. Each agency, therefore, has the authority and responsibility to control noise emissions of the sources it owns, both through product noise procurement specifications and in the use restrictions it imposes on mode or period of operation. In addition, as an employer of a large segment of the American work force, the Federal Government is directly responsible for protecting its workers from hazardous occupational noise environments.

During the next year, EPA hopes to increase the dialogue among Federal agency officials concerning the relationship of their programs to national noise abatement goals and to discuss ways in which their programs and those of EPA can be integrated into a more effective and comprehensive national effort. The following issues are among those that need to be addressed:

- A) Air and Surface Transportation Noise. What might be done to noise control policies used in the administration of Federally funded programs and those established for regulating individual vehicular sources to insure that they are consistent and mutually reinforcing?
- B) Land Use Control. Are all Federal activities influencing land use appropriately designed to discourage noise sensitive development in noise-impacted areas around airports and other major noise generators and are local governments provided with sufficient incentives and guidance to ensure land use compatibly with noise?
- C) Construction Noise. Can the agencies conducting or supporting construction activities incorporate noise control techniques as a complement to the regulations established on specific items of equipment?
- D) Occupational Noise. Are all appropriate Federal authorities administered in a way that adequately protects the Federal and non-Federal workers from hazardous occupational noise levels?



- E) Household Noise. Are Federal activities directed at influencing building construction and operations for the purpose of energy conservation also providing for maximum noise abatement as well?

EPA is required under the Noise Control Act to coordinate the activities of the Federal Government so that a consistent and effective noise control effort is mounted by the Federal establishment. EPA plans to increase its efforts in this regard in the coming year and to seek a common effort on a cooperative basis.

Emphasis will be placed on:

- A) Coordination of Federal research, as previously discussed.
- B) Obtaining consistency in the noise assessment methodologies employed by various Federal agencies.
- C) The use of joint Federal agency special studies and demonstration noise control programs that exemplify how various Federal authorities can be effectively combined to bring about reductions in specific noise environments.
- D) Discussions with individual Federal agencies to seek improvements in their policies and programs.
- E) Workshops and the publication of manuals that will help guide the noise abatement activities of the Federal Government.