

*REPORT TO THE
COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES*



*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*



087475

Policies And Scope Of Air
Installation Compatible Use
Zones Program *B-133316*

Department of Defense

The Department of Defense started this program in 1973 to carry out a policy of insuring its continued flight operational capability. For the 194 bases now in the program, the Air Force estimated \$57 million to achieve compatible land uses around its bases while Army and Navy estimates await further study.

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-133316

The Honorable George H. Mahon
Chairman, Committee on
Appropriations
House of Representatives

Dear Mr. Chairman:

Your December 11, 1975, letter requested us to review Department of Defense policies on air installation compatible use zones. At a meeting with your office on January 6, 1976, we agreed to provide information on the policies of the Department and military services for establishing compatible use zones around military air bases and on the services' estimates of the cost to acquire land or easements as necessary;

Appendix I contains the information obtained from the Department on program policies and potential magnitude. We have not verified this information and, as requested, have not obtained written comments.

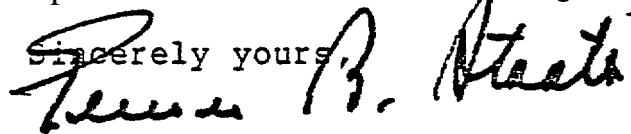
The Department's policy is to insure the operational capability of its air bases by limiting development of those areas subject to high accident danger or undue noise. The Department is revising its instructions in light of congressional concerns and, in the interim, has issued directives for determining areas subject to accident danger or undue noise and for setting acquisition priorities. The Department stresses that every effort to achieve land use compatibility through zoning changes and other community actions will be made before acquiring properties around airfields. However, a Department official said that land within clear zones (the area up to 3,000 feet from the ends of runways) will have to be acquired in most cases to effectively control these areas. The Department advised the services that the priorities were to acquire lands within the clear zone whenever practicable, and beyond the clear zone, acquire interests in accident and high noise areas only when all possibilities of compatible use zoning have been exhausted.

The military services have designated 194 installations for the program. The services plan to complete the individual installation reports which will afford local communities

the technical information on which appropriate land **use** actions can be taken. The Army and Navy do not have current estimates **for** their overall program **cost**. The Air Force estimates that its program will cost about \$56.8 million.

We are sending **copies** of this report to the Department and other interested parties **as** discussed with your office on April, 23, 1976.

: We plan to continue monitoring the **Department's** efforts to revise its instructions and to achieve land use compatibility near its air installations. We will furnish the Committee with copies of any report we issue on this subject.

Sincerely yours


Comptroller General
of the United States

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ABBREVIATIONS

AICUZ	Air installation compatible use zones
APZ	Accident potential zone

AIR INSTALLATION COMPATIBLE USE ZONES
POLICY AND POTENTIAL MAGNITUDE

PROGRAM DEFINITION

The Department of Defense initiated the air installation compatible use zones (AICUZ) program in July 1973 for all military air installations in the United States, its territories, trusts, and possessions. AICUZ are the areas near air installations where it is generally desirable to exclude certain land uses. For example, tall structures should not be in flight paths, and residences should not be within range of intensive aircraft noise or within high accident hazard areas.

AICUZ are composed of accident potential zones and noise zones. Accident potential zones are areas beyond the ends of runways or landing areas where a high proportion of accidents occur. Noise zones are areas around an installation where various levels of aircraft noise are experienced.

The goal of the program is to foster Land use planning in high risk and noise areas surrounding military air installations consistent with the health, safety, and comfort of area users and with air operations at the installations.

During consideration of authorization and appropriation bills for military construction for fiscal year 1976, congressional committees expressed concern over the direction of the program as outlined below.

- The Department's approach of buying off encroachers around an installation was considered unsatisfactory by the Senate Armed Services Committee which looked to the Department to examine the problem in coordination with other agencies to see if there was a more acceptable approach. (Senate Report 94-157, May 22, 1975.)
- The House Armed Services Committee expressed the hope that local zoning authorities would implement a compatible land use program around the entire installation, using information provided by the services and other local sources. (House Report 94-293, June 13, 1975.)
- The Conference Report on the military construction authorization bill cited the understanding that the Department would (1) resolve the divergent approaches to the problem being taken by the Navy and Air Force and (2) insure that every possible means to protect the integrity of military air bases by cooperation with local governments is exhausted before acquiring real estate or easements. (House Report 94-483, September 17, 1975.)

--The **House** Appropriations Committee questioned whether the program was proceeding in the right direction **or** in **any** direction at all. The Committee informed the **services** that the moneys were to be first directed toward alleviating encroachment in accident potential **zones** rather than in noise zones. The Committee urged the Department to arrive at a clear policy, developed in cooperation with local authorities, if possible, and certainly with other Federal agencies. (House Report 94-530, October 3, 1975.)

In October 1975, the Department notified the services that its basic policy on AICUX supported the local community's responsibility **for** the health, welfare, and safety of its residents by providing the local governing bodies with **technical** information on which appropriate land use actions could be taken. This Department memorandum to the services stated that every effort would be made to achieve land **use** compatibility by means other than acquiring properties. However, a Department official said that land within the clear zones (**see p. 4**) would have to be acquired in most cases to effectively control these areas.

The Department also said that it was revising its **July** 1973 instruction in light of congressional concerns by placing greater emphasis on alleviating encroachment in accident potential zones and on actions such **as** zoning and building codes. The instruction was still being revised in April 1976.

Meanwhile, **the** current priority of programing actions to establish AICUZ will be as follows.

1. Acquire lands in fee (legal title) and/or appropriate restrictive easements (interests which prohibit **the** landowner from certain limited uses of his land) within clear zones (**see p. 4**) whenever practicable.

2. Beyond the clear zone, program the acquisition of land **or** restrictive easements first in the remaining accident potential zones and secondly in high noise areas, only when **all** possibilities of achieving compatible use zoning or similar protection have been exhausted and the operational integrity of the air installation is obviously threatened.

Accident potential zones

The Department issued guidelines in April 1975 primarily to identify realistic accident potential zones and compatible land uses which can be recommended to appropriate local planning agencies. **The** guidelines provide a table of compatible

land uses, (See app. II.) The method of control and regulation of land use will vary by locality based on individual service policy and local conditions.

These guidelines **also** establish two classes of runways (A and B) **for** military airfields and three accident potential **zones for** each type of runway. A class A runway accommodates small light aircraft and **is** common to Army installations. **All** other runways fall into class B. Three accident potential zones extend in sequence from each end of the runway: the clear zone, zone I, and zone II. The chart on the following page depicts the guidelines **for** the accident potential zones for **class** A and B runways.

The Navy and Air Force apply **a** different shape **for** the clear zone at class B runways. **The** Navy establishes a fan-shaped zone of 1,500 feet wide at the end of the runway to 2,300 feet wide at 3,000 feet from the runway. **The** Air Force establishes a clear **zone in** a **square** configuration of 3,000 feet by 3,000 feet.

Air **Force** and **Navy** studies of nearly 800 major aircraft accidents from 1968 through 1972 show that the Navy experiences a higher rate of accidents in zones I and II than the Air Force. **The** following table shows the results of the studies.

<u>Accident area</u>	<u>Percent of accidents in areas</u>	
	<u>Navy</u>	<u>Air Force</u>
Runway	22	23
Clear zone	13	39
APZ I	21	8
APZ II	24	5
Other	<u>20</u>	<u>25</u>
	<u>100</u>	<u>100</u>

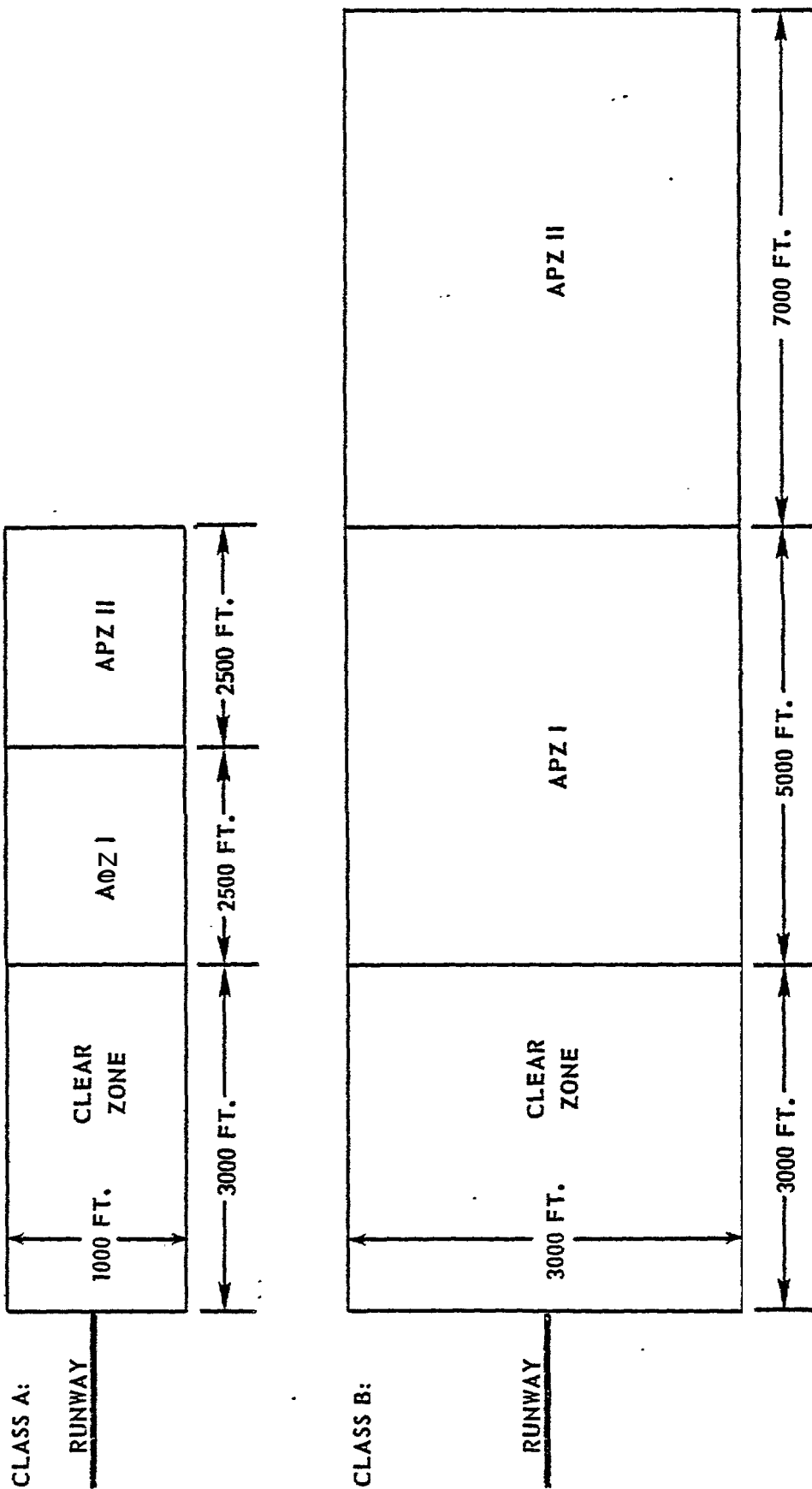
A Navy official said that the difference between Navy and Air Force accident patterns **was** due to different methods of flying and types **of** aircraft.

Noise zones

The Department's **July** 1973 instruction defines the following noise zones around **an** airfield.

--Zone 3 is **a** relatively small area adjacent to **the** airfield in which the intensity of noise will almost certainly interfere with many uses of the area, particularly residential use.

DOD GUIDELINES FOR ACCIDENT POTENTIAL ZONES (APZs)



--Zone 2 is a larger area beyond zone 3, in which noise may interfere with other land uses.

--Zone 1 is the area beyond zone 2; in which no serious noise difficulties may be expected.

The Department instructed the services in October 1975 to adopt the day-night sound level system for quantifying aircraft noise levels in AICUZ reports. The Environmental Protection Agency considered this system the most refined system now available and concurred in the Department's decision. The system uses a 24-hour weighted equivalent sound level with a certain penalty for nighttime levels.

Methods for determining aircraft noise levels are in an evolutionary stage, according to the Navy, Air Force, and Federal Aviation Administration.

Environmental impact statement on AICUZ

The Department submitted a proposed environmental impact statement to concerned parties in early 1973 and received comments from 6 Federal agencies, 29 States, and 1 territory. Generally, the respondents either concurred with the program or offered no comment. The Department of Housing and Urban Development said that it considers development in noise zone 3 unacceptable and development in zone 2 discretionary and normally unacceptable for new residential construction. The Environmental Protection Agency recommended that more definite guidance be developed for siting, abatement equipment, and operational factors and stated that a "truth in selling" provision is needed to protect consumers from leasing, renting, or buying land or facilities located in or around noise zones 3 and 2.

The Federal Aviation Administration suggested clarification of the inference that noise and safety are interrelated, because the improper use of a noise descriptor as a safety indicator could jeopardize the existence of military and civilian airports,

Some of the responding States suggested that:

--Land acquisitions be coordinated with the Department of the Interior and State agencies.

--Cooperation between local zoning boards and the Department of Defense be emphasized.

--Noise zone information be provided to local governments for inclusion in the building codes.

--Better noise descriptors be used to make decisions.

The Department said that its final environmental impact statement issued in June 1973 contained copies of all comments received, a discussion of the comments, and changes made in its instruction in response to the comments.

Related Federal agency actions

Under authority of the Airport and Airway Development Act of 1970, the Federal Aviation Administration assists communities in land use planning around commercial airports and in acquiring clear zones. Its land use planning programs include consideration of noise impact and adequacy of land use planning in noise zones. Program agreements for financial assistance to communities require assurance of compatible land uses.

Proposed amendments to the act provide authorization for the Administration to assist communities in acquiring noise buffer zones. Federal Aviation Administration officials explained that any acquisition project would be evaluated on a case-by-case basis and that the program would primarily cover the high noise zones. The Administration is developing an airport noise policy but does not have a program similar to the Department's AICUZ program.

Under its home loan insurance program, the Veterans Administration has prepared guidelines on insuring loans for homes in noise zones. Generally, it would not insure loans for homes located in noise zone 3 and possibly zone 2.

The General Services Administration issued a Federal Management Circular on September 30, 1975, prescribing the executive branch's general policy for achieving compatible land uses on public or private property at Federal airfields. It required Federal airfield operating agencies, including the Department of Defense, to develop a land use plan analyzing compatibility problems and potential solutions as a basis for property acquisitions, disposals, and other proposed changes in holdings in the areas of the Federal airfield.

AICUZ PROGRAM SCOPE

The Department requires the military services to prepare a report for each air installation describing accident potential and noise zones, appraisal of land values and probable development in those zones; the installation's master plan; prospects for joint use of the installation; and recommendations for relocating air operations, acquiring land, relying

on local zoning boards, or finding other solutions. The following table shows the *status* of these reports.

AICUZ program instal- lations (<u>note a</u>)		<u>AICUZ reports</u>	
		<u>Completed</u>	<u>In process</u>
Army	51	39	-
Navy	51	11	19
Air Force	92	18	74

An installation may have heliports, auxiliary or outlying-landing fields. For example, Army installations include 46 airfields and 11 heliports. Navy installations include 31 auxiliary and outlying landing fields. The Air Force program does not include auxiliary or outlying landing fields.

Army

The Army has not estimated the cost of complying with the compatible use zones program. It cannot identify required zoning actions or land acquisitions until a current helicopter noise study is finished. The study results will be incorporated in 10 of the 39 completed AICUZ reports, and reports will then be prepared for the 18 remaining airfields and heliports. None of the reports on 29 installations without helicopter operations indicated a safety problem.

The Army's review of the master plans for 18 installations requiring reports has shown that 2 may require protection from encroachment. An Army official said that the AICUZ reports will be released to local communities after the Army is certain that the reports show the impact of the helicopter noise.

The Army has not requested funds for land acquisition and plans no requests for fiscal year 1977.

Navy

The Navy has no current estimate of the total potential cost of its AICUZ program. In 1973 the Navy estimated that the maximum potential cost of the program, at that time, was \$500 million: about \$460 million for land acquisitions, primarily restrictive easements in nearby undeveloped areas, and \$40 million for aircraft acoustical enclosures. A Navy official said that a more realistic estimate could be made after all AICUZ reports were completed in fiscal year 1978 and released to local communities, and the communities have

acted on the proposed land development plan. The Navy's acquisition plans are not restricted to clear zones. Encroachment is particularly serious to the Navy because many of its airbases are in rapidly growing coastal population centers.

About \$71.7 million was authorized and \$22.4 million appropriated for Navy compatible use zone projects in fiscal years 1973 through 1976. As of March 1976, the Navy had unused authorizations of \$61.1 million and appropriations of \$20 million. The Navy did not request funds for fiscal year 1977 and estimated that requests for fiscal years 1978 through 1981 would be about \$105 million.

On March 17, 1976, the Department of Defense announced that it is studying (1) the termination of air operations in fiscal year 1977 at the Naval Air Stations in Lakehurst, New Jersey, and Memphis, Tennessee, and (2) the relocation of all air squadrons from the Naval Air Stations at Key West, Florida, and Corpus Christi, Texas, to other air installations. AICUZ reports were in process for Lakehurst, Key West, and Corpus Christi but not started for Memphis.

Air Force

The Air Force estimates that it will cost about \$56.8 million to acquire 9,181 acres in fee or restrictive easements to assure compatibility of the clear zones at its airfields. The Air Force does not plan to acquire property beyond the clear zones.

According to the Air Force, the clear zones at 28 airfields are within the installations' boundaries. At 10 installations, the Air Force would have to acquire 1,021 acres costing about \$207,000 to complete the clear zones. At the other 54 installations, the Air Force estimates that it will need 8,160 acres costing about \$56.6 million to fully protect the clear zones. The Air Force plans to acquire the latter acreage in fee by exchanging excess Government lands, or by purchase, or by obtaining restrictive easement.

The Air Force makes its AICUZ reports and maps (including noise and accident potential zones) available to local communities for incorporation in their comprehensive development plans and expects to complete its reports by December 1976.

During fiscal years 1973 and 1974, the Congress authorized land acquisition projects for \$30 million at 16 Air Force installations, to be accomplished primarily by

exchange of excess Government land. The Air Force did not request additional authorizations in fiscal year 1975. In fiscal year 1976, the Congress extended the Air Force authorizations of \$30 million to January 1, 1978. The Air Force revised the composition and increased to 23 the number of installations where land was to be acquired. In January 1976, the Air Force had \$16.4 million in appropriations available to acquire land.

The Air Force has acquired 583 acres for clear zones at 10 installations through land acquisition authority, including 40 acres at Kincheloe Air Force Base, Michigan, in February 1976. On March 11, 1976, the Department announced that it was considering closing Kincheloe by June 30, 1977. The Air Force is also considering closing Craig Air Force Base, Alabama, and Webb Air Force Base, Texas, where clear zone acquisitions costing about \$1,359,600 are planned.

DEPARTMENT OF DEFENSE COMPATIBLELAND USE GUIDE FOR ACCIDENT POTENTIAL ZONES

<u>Land use description</u>	<u>Compatibility (note a)</u>		
	<u>Clear zone</u>	<u>APZ-I</u>	<u>APZ-II</u>
Residential:			
Single family	NO	NO	b/Yes
2- to 4-family	NO	NO	NO
Multifamily dwellings	NO	NO	NO
Group quarters	NO	NO	NO
Residential hotels	NO	NO	NO
Mobile home parks or courts	NO	NO	NO
Other residential	NO	NO	NO
Industrial/manufacturing: (note c)			
Food and kindred products	NO	NO	Yes
Textile mill products	NO	NO	Yes
Apparel	NO	NO	NO
Lumber and wood products	NO	Yes	Yes
Furniture and fixtures	NO	Yes	Yes
Paper and allied products	NO	Yes	Yes
Printing, publishing	NO	Yes	Yes
Chemicals and allied products	NO	NO	No
Petroleum refining and related industries	NO	NO	NO
Rubber and miscellaneous plastic goods	NO	NO	No
Stone, clay, and glass products	NO	Yes	Yes
Primary metal industries	NO	Yes	Yes
Fabricated metal products	NO	Yes	Yes
Professional, scientific, and controlling structures	NO	NO	No
Miscellaneous manufacturing	NO	Yes	Yes
Transportation, communications, and utilities: (note d)			
Railroad, rapid rail transit (ongrade)	e/No	d/Yes	Yes
Highway and street right of way	e/No	Yes	Yes
Auto parking	NO	Yes	Yes
Communication	e/No	Yes	Yes
Utilities	e/No	d/Yes	Yes
Other transportation, communications, and utilities	e/No	Yes	Yes

Commercial/retail trade:

Wholesale trade	No	Yes	Yes
Building materials-retail	No	Yes	Yes
General merchandise-retail	no	NO	Yes
Food-retail	No	NO	Yes
Autoinotive, marine, aviation- retail	No	Yes	Yes
Apparel and accessories-retail	No	NO	Yes
Furniture, homefurnishing- retail	No	No	Yes
Eating and drinking places	NO	No	NO
Other retail trade	NO	NO	Yes

Personal and business services:

(note f)

Finance, insurance, and real estate	No	no	Yes
Personal services	NO	NO	Yes
Business services	NO	NO	Yes
Repair services	NO	Yes	Yes
Professional services	NO	NO	Yes
Contract construction services	NO	Yes	Yes
Indoor recreation services	NO	NO	Yes
Other services	No	NO	Yes

Public and quasi-public services:

Government services	No	NO	f/Yes
Educational services	NO	No	NO
Cultural activities	NO	NO	NO
Medical and other health services	NO	NO	No
Cemeteries	NO	g/Yes	g/Yes
Nonprofit organizations including churches	NO	No	No
Other public and quasi-public services	NO	NO	Yes

Outdoocr recreation:

Playgrounds, neighborhood parks	No	NO	Yes
Community and regional parks	NO	h/Yes	h/Yes
Nature exhibits	NO	Yes	Yes
Spectator sports including arenas	No	No	No
Golf course (note i), riding stables (note'j)	NO	Yes	Yes

Outdoor recreation: (continued)

Water-based recreational areas	NO	Yes	Yes
Resort and group camps	NO	NO	NO
Entertainment assembly	NO	NO	NO
Other outdoor recreation	NO	h/Yes	Yes

Resource production and extraction and open land:

Agriculture (except livestock)	Yes	Yes	Yes
Livestock farming, animal breeding	NO	Yes	Yes
Forestry activities (note e)	NO	Yes	Yes
Fishing activities and related services	NO	Yes	Yes
Mining activities	NO	Yes	Yes
Permanent open space	Yes	Yes	Yes
Water areas (note h)	Yes	Yes	Yes

a/A "yes" or "no" designation for compatible land use is to be used only for gross comparison. Within each category uses exist which may require further definition as to whether the use is clearly or normally acceptable or unacceptable owing to variations in densities of people and structures.

b/Suggested maximum density is 1 to 2 dwelling units an acre. This may be increased under planned unit development if dwellings cover less than 20 percent of the land.

c/Factors to be considered include labor intensity, structural coverage, explosive characteristics, and air pollution.

d/Passenger terminals and major above ground transmission lines are not permitted in APZ-I.

e/Structures (except airfield lighting), buildings, or above ground utility-communication lines should not be located in the clear zone.

f/For low intensity office uses only-use for meeting places or auditoriums is not recommended.

g/Excludes chapels.

h/Facilities must be low intensity.

i/Clubhouse not recommended.

j/Concentrated rings with large classes not recommended.

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Congress of the United States
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 Washington, D.C. 20515

December 11, 1915

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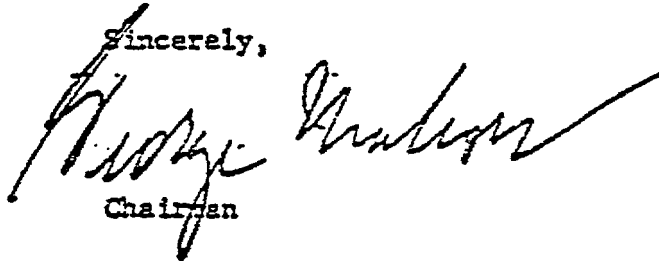
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Honorable Elmer B. Staats
 Comptroller General of the United States
 General Accounting Office
 441 G Street, N.W.
 Washington, D.C. 20548

Dear Mr. Staats:

As indicated on page 19 of House Report No. 94-530 accompanying H.R. 10029, the military construction appropriation bill, 1976, the Committee feels that a review of policies relating to air installation compatible use zones (AICUZ) is required, it will be greatly appreciated if you will initiate a study by your agency in this regard.

Sincerely,



Chairman

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