ENVIRONMENTAL ASSESSMENT TEMPORARY USE OF A TRAINING AIRPORT

Department of the Air Force
Air Education and Training Command
14th Flying training Wing
Columbus Air Force Base, Mississippi

January 2003

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14. ABSTRACT

The purpose of the action is to ensure there is no disruption to pilot training at Columbus AFB while Runway 13Right/31Left (13R/31L) at the Base is closed for repair and repaving from approximately February to July 2003. Under the Proposed Action, Columbus AFB would rotate as many as 18 T -1 aircraft to the Golden Triangle Regional Airport (GTRA) which is about 13 miles southwest of the Base and 10 miles west of the City of Columbus Mississippi, on a weekly basis during the 6-month period and then fly training sorties from the airport. Columbus AFB T-37 aircraft would continue to be parked at and launch and terminate sorties at the Base; however, T-37 airfield operations would be accomplished at the GTRA Mondays through Fridays during the 6-month period. T-1 and T-37 aircraft would accomplish about 161.20 average daily operations at the GTRA. The Air Force would transport a mobile air traffic control tower to the airport from another location for use in controlling all aircraft traffic at the airport during the period when T-1 and T-37 operations would be conducted at the airport. The airspace within an approximate 5-mile radius of the GTRA and up to 2,500 above ground level would be designated as class D airspace when the air traffic control tower would be operating. No extensive aircraft maintenance activities would be anticipated to occur at GTRA other than the rare occasion when a T -1 or T-3 7 aircraft might land at the airport due to an emergency that would require maintenance before being capable of a subsequent flight. This EA evaluates the Proposed Action and the No Action Alternative. Under the No Action Alternative, Columbus AFB would not locate T-1 aircraft at the GTRA or conduct T-1 and/or T-37 airfield operations at the airport while 13R/3 1L at the Base would be closed. Resources considered in the impact analysis were: mission; airspace and airfield operations; noise; land use; hazardous materials and hazardous waste management; and environmental justice.

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ENVIRONMENTAL ASSESSMENT TEMPORARY USE OF A TRAINING AIRPORT

Department of the Air Force
Air Education and Training Command
14th Flying Training Wing
Columbus Air Force Base, Mississippi

January 2003

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Finding of No Significant Impact
Temporary Use of a Training Airport
Columbus Air Force Base, Mississippi

AGENCY

Department of the Air Force, Air Education and Training Command, 14th Flying Training Wing, Columbus Air Force Base (AFB), Mississippi.

BACKGROUND

A September 2000 Pavement Condition Survey revealed that Runway 13Right/31Left (13R/31L) at Columbus AFB has high severity longitudinal/transverse cracking, joint seal damage, shattered slabs, and corner breaks. Therefore, Columbus AFB plans to repair and repave the runway, which will be closed to aircraft operations while the repair and repave activity is underway. The base has two other runways and all three runways are used simultaneously for training. Thus, closing 13R/31L from approximately February to July 2003 while it is being repaired and repaved requires the base to use another airfield to ensure there is no disruption to pilot training.

PROPOSED ACTION

Columbus AFB will, on a weekly basis, rotate as many as 18 T-1 aircraft to the Golden Triangle Regional Airport (GTRA), which is about 13 miles southwest of the base and 10 miles west of the City of Columbus, Mississippi. During the six-month period, training sorties will be flown from the airport. Columbus AFB T-37 aircraft will continue to be parked at and launch and terminate sorties at the base; however, T-37 airfield operations will be accomplished at the GTRA, Mondays through Fridays, during the six-month period. T-1 and T-37 aircraft will accomplish about 161.20 average daily operations at the GTRA. The Air Force will transport a mobile air traffic control tower to the airport from another location for use in controlling all aircraft traffic at the airport during the period when T-1 and T-37 operations are conducted. The airspace within an approximate 5-mile radius of the GTRA and up to 2,500 above ground level will be designated as Class D airspace when the air traffic control tower is in operation. No extensive aircraft maintenance activities are anticipated to occur at GTRA other than the rare occasion when a T-1 or T-37 aircraft might land at the airport due to an emergency that requires maintenance before being capable of subsequent flight.

NO ACTION ALTERNATIVE

Columbus AFB will not locate T-1 aircraft at the GTRA or conduct T-1 and/or T-37 airfield operations at the airport while Runway 13R/31L at Columbus AFB is closed for repair and repaving.

FINDINGS

Pursuant to National Environmental Policy Act (NEPA) guidance, 32 Code of Federal Regulations (CFR) 989 (*Air Force Environmental Impact Analysis Process*), and other applicable regulations, the Air Force completed an environmental assessment (EA) of the potential environmental consequences of airfield operations by Columbus AFB T-1 and T-37 aircraft at the GTRA on a temporary basis. The EA, which supports this Finding of No Significant Impact (FONSI), evaluated the Proposed Action and the No Action Alternative.

EVALUATION OF THE PROPOSED ACTION

Airspace and Airfield Operations. The existing routings established by Columbus Radar Approach Control and used under the current condition for aircraft to proceed to and from the GTRA will accommodate the T-1 and T-37 aircraft. Establishment of Class D airspace and the air traffic control procedures that will be implemented to control aircraft in the airspace will improve air traffic control within the airspace in that the level of control is increased when compared to that for Class E. The airspace surrounding the GTRA and the anticipated air traffic control procedures can accommodate the T-1 and T-37 airfield operations without conflict from other aviation activity.

Noise. There will be an additional 977 acres and 8 persons within the day-night average sound level (DNL) 65 dBA and greater noise exposure area. The maximum sound exposure level at any of the four specific analysis points from T-1 and T-37 operations will be 103 dBA, which is about 6 dBA less than the current condition. There will be no noise induced hearing loss or nonauditory health effects. There will be no change from the current condition sleep awakenings because the type and number of civil aircraft operations will be the same as the current condition, and T-1 and T-37 aircraft will not operate during normal sleep periods. However, those individuals who sleep between 7:00 a.m. and 10:00 p.m. will likely be affected just as those persons who sleep during normal sleep periods.

Land Use. Although the noise exposure area will increase, the additionally exposed areas will continue to be farmland and no other land use types will be exposed to aircraft noise. There will be no change to land use patterns and categories.

Hazardous Materials and Wastes. No hazardous waste will be generated at the GTRA. No new waste streams are anticipated because T-1 aircraft maintenance activity will be the same as that at Columbus AFB.

EVALUATION OF THE NO ACTION ALTERNATIVE

No significant impacts occur from the existing activities at the GTRA.

ENVIRONMENTAL JUSTICE

No disproportionate adverse effects will occur to minority or low-income populations under the proposed action or the no action alternative.

DECISION

Based on my review of the facts and analyses contained in the EA, I conclude that implementation of the Proposed Action will not have a significant impact either by itself or when considering cumulative impacts. Accordingly, the requirements of the NEPA, regulations promulgated by the Council on Environmental Quality, and 32 CFR 989 are fulfilled and an environmental impact statement is not required.

Stephen Dean Schmidt

STEPHEN D. SCHMIDT, Colonel, USAF
Commander, 14th Flying Training Wing

28 Jan 03
Date

COVER SHEET

ENVIRONMENTAL ASSESSMENT
TEMPORARY USE OF A TRAINING AIRPORT

Responsible Agency: Department of the Air Force, Air Education and Training Command, 14th Flying Training Wing, Columbus Air Force Base (AFB), Lowndes County, Mississippi.

Proposed Action: Temporary Use of a Training Airport

Written comments and inquiries regarding this document should be directed to: Mr. Mike Smith, 14 CES/CEV, 555 Simler Blvd, Columbus AFB, Mississippi 39701, (662) 434-7328, email: michael.smith@columbus.af.mil.

Report Designation: Environmental Assessment.

Abstract: The purpose of the action is to ensure there is no disruption to pilot training at Columbus AFB while Runway 13Right/31Left (13R/31L) at the Base is closed for repair and repaving from approximately February to July 2003. Under the Proposed Action, Columbus AFB would rotate as many as 18 T-1 aircraft to the Golden Triangle Regional Airport (GTRA), which is about 13 miles southwest of the Base and 10 miles west of the City of Columbus, Mississippi, on a weekly basis during the 6-month period and then fly training sorties from the airport. Columbus AFB T-37 aircraft would continue to be parked at and launch and terminate sorties at the Base; however, T-37 airfield operations would be accomplished at the GTRA Mondays through Fridays during the 6-month period. T-1 and T-37 aircraft would accomplish about 161.20 average daily operations at the GTRA. The Air Force would transport a mobile air traffic control tower to the airport from another location for use in controlling all aircraft traffic at the airport during the period when T-1 and T-37 operations would be conducted at the airport. The airspace within an approximate 5-mile radius of the GTRA and up to 2,500 above ground level would be designated as class D airspace when the air traffic control tower would be operating. No extensive aircraft maintenance activities would be anticipated to occur at GTRA other than the rare occasion when a T-1 or T-37 aircraft might land at the airport due to an emergency that would require maintenance before being capable of a subsequent flight. This EA evaluates the Proposed Action and the No Action Alternative. Under the No Action Alternative, Columbus AFB would not locate T-1 aircraft at the GTRA or conduct T-1 and/or T-37 airfield operations at the airport while 13R/31L at the Base would be closed. Resources considered in the impact analysis were: mission; airspace and airfield operations; noise; land use; hazardous materials and hazardous waste management; and environmental justice.

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ACRONYMS AND ABBREVIATIONS\

14 FTW	14th Flying Training Wing
14 OSS	14th Operations Support Squadron
ACQR	Air quality control region
AFB	Air Force Base
AFI	Air Force Instruction
AGL	Above ground level
ANSI	American National Standards Institute
CEQ	President's Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
dB	decibel
dBA	A-weighted sound level measured in decibels
DNL	Day-night average sound level
DoD	Department of Defense
DoDD	Department of Defense Directive
EA	Environmental assessment
EIAP	Environmental impact analysis process
EIS	Environmental impact statement
EO	Executive order
FAA	Federal Aviation Administration
FAR	Federal aviation regulation
FICAN	Federal Interagency Committee on Aviation Noise
FICON	Federal Interagency Committee on Urban Noise
FONSI	Finding of no significant impact
GTRA	Golden Triangle Regional Airport
HMMP	Hazardous material management plan
IFR	Instrument flight rules
MOA	Military operations area
NEPA	National Environmental Policy Act
RAPCON	Columbus Radar Approach Control
RCRA	Resource Conservation & Recovery Act
ROI	Region of influence
SEL	Sound exposure level
SUPT	Specialized Undergraduate Pilot Training
SUPT EA	Environmental Assessment, Specialized Undergraduate Pilot Training Production Increases, United States Air Force, Air Education and Training Command, Columbus AFB, Mississippi, Laughlin AFB, Texas, Vance AFB, Oklahoma, February 1997
USC	United States Code
USEPA	United States Environmental Protection Agency
VFR	Visual flight rules

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CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

The 14th Flying Training Wing (14 FTW) at Columbus Air Force Base (AFB) (Columbus AFB or the Base) proposes to conduct aircraft operations on a temporary basis at another airport while Runway 13Right/31Left (13R/31L) at the Base is closed for repairs.

This Environmental Assessment (EA) has five sections: a statement of the purpose of and need for action; location of the Proposed Action; scope of the environmental review; identification of regulatory requirements; and an outline of the document.

1.1 PURPOSE OF AND NEED FOR ACTION

The host unit at Columbus AFB is the 14 FTW, whose mission is to conduct Specialized Undergraduate Pilot Training (SUPT) for Air Force personnel, as well as students from foreign countries. The purpose of and need for action is to ensure there is no disruption to pilot training while 13R/31L is closed for repair and repaving from approximately February to July 2003.

The Airfield Engineering Assessment and Pavement Condition Survey conducted in September 2000 identified 13R/31L as unsatisfactory due to high pavement condition index deficiencies. The deficiencies include high severity longitudinal/transverse cracking, joint seal damage, shattered slabs, and corner breaks. Therefore, the Base plans to repair and repave 13R/31Land close it to aircraft operations while the repair and repave activity is underway.

Columbus AFB has three parallel runways identified as Runways 13Left/31Right (13L/31R), 13Center/31Center (13C/31C), and 13R/31L. The runways are used for simultaneous arrivals, departures, and closed patterns by the T-1, T-37, and T-38 aircraft assigned to the Base. Under normal 3-runway operating conditions, T-38 and T-1 aircraft use 13L/31R, but at separate times due to incompatible operating characteristics; T-37s use Runway 13R/31L; and 13C/31C is used for T-1 and T-38 departures and instrument approach training.

Of the three aircraft, the T-1 accomplishes the fewest aircraft operations at the Base because takeoff and landing training can be accomplished at other airports more easily than for the T-37 and T-38. Columbus AFB personnel determined that, to minimize disruption to the overall flying training program during closure of 13R/31L, T-37 and T-38 aircraft could continue to operate from 13L/31R and 13C/31C, and some T-1s could be deployed to another airport while some T-1s could share 13L/31R with the T-38s. Certain expected air temperatures during the approximate 6-month period 13R/31L would be closed for repair will not allow T-38s to takeoff from 13L/31R and will require use of the longer 13C/31C. This would reduce T-37 access to 13C/31C, thereby requiring some T-37s to accomplish training at other airports when the T-38s require use of 13C/31C. To ensure the flying training program is not disrupted, Columbus AFB has a need to locate another airport at which some T-1 aircraft could be deployed and training could be conducted for the T-1 and T-37 aircraft while 13R/31L is closed for repair.

1.2 LOCATION OF THE PROPOSED ACTION

The Golden Triangle Regional Airport (GTRA) is being considered for the temporary airport where some T-1 aircraft would be parked and at which T-1 and T-37 practice takeoffs and landings would be accomplished during repair of 13R/31L at the Base. The GTRA is located about 10 miles west of the City of Columbus in Lowndes County, Mississippi, and 13 miles south-southwest of the Base. Columbus AFB also is located in Lowndes County, approximately 10 miles northwest of the City of Columbus. Figure 1.1 indicates the locations of the Base and the GTRA.

1.3 SCOPE OF THE ENVIRONMENTAL REVIEW

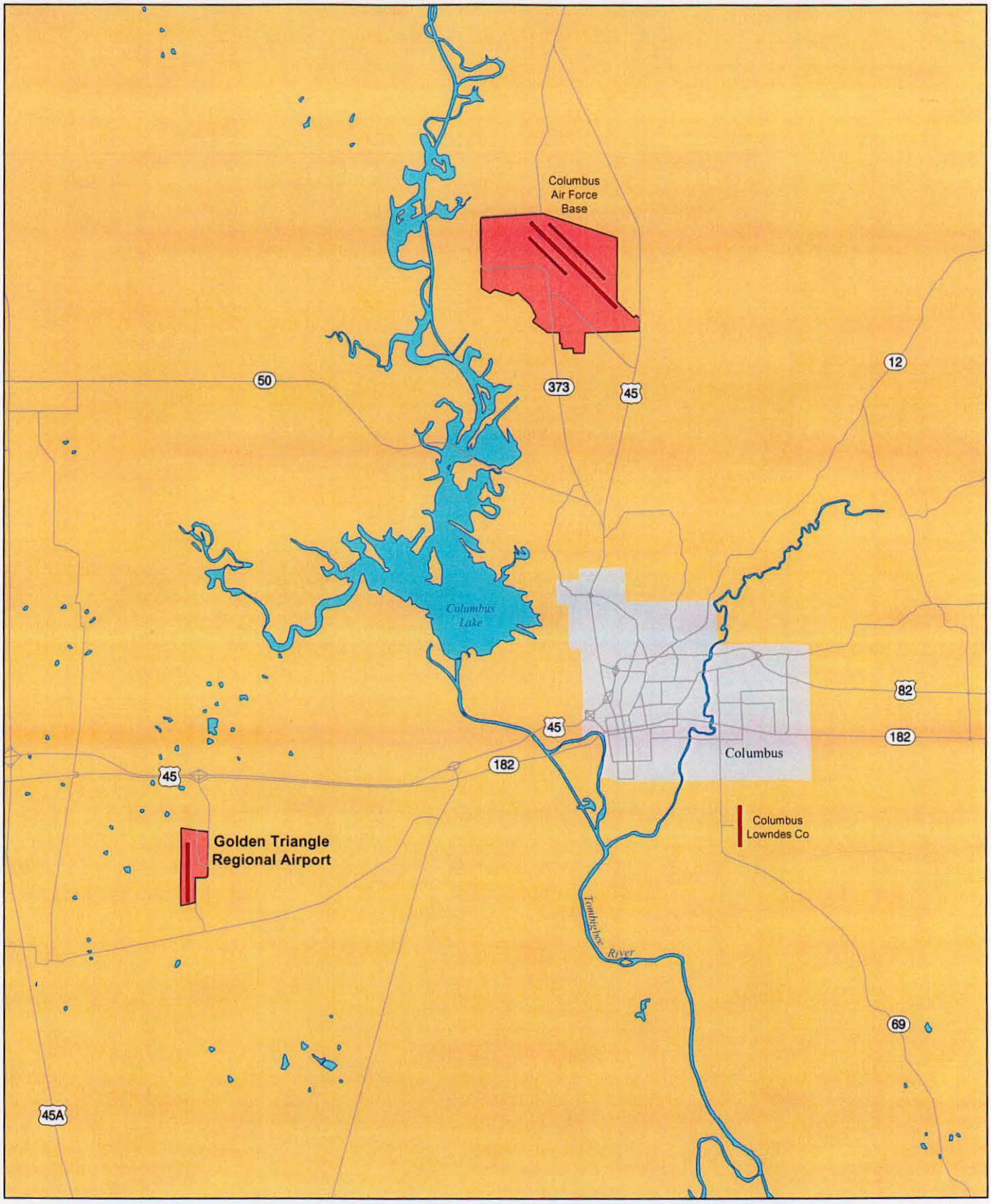
The National Environmental Policy Act (NEPA) of 1969, as amended, requires federal agencies to consider environmental consequences in the decision-making process. The President's Council on Environmental Quality (CEQ) issued regulations to implement NEPA that include provisions for both the content and procedural aspects of the required EA. The Air Force Environmental Impact Analysis Process (EIAP) is accomplished through adherence to the procedures set forth in CEQ regulations (40 Code of Federal Regulations [CFR] Sections 1500-1508) and 32 CFR 989 (Air Force Environmental Impact Analysis Process), 15 Jul 99, and amended 28 Mar 01. These federal regulations establish both the administrative process and substantive scope of the EIAP designed to ensure that deciding authorities have a proper understanding of the potential environmental consequences of a contemplated course of action. CEQ regulations require that an EA:

- Briefly provide evidence and analysis to determine whether the Proposed Action might have significant effects that would require preparation of an environmental impact statement (EIS). If the analysis determines that the environmental effects will not be significant, a finding of no significant impact (FONSI) will be prepared; or
- Facilitate the preparation of an EIS, when required.

This EA assesses only the T-1 and T-37 operations at the GTRA. The environmental documentation for the other actions mentioned in this section would be accomplished under separate actions.

1.3.1 Identification of Resources Applicable to the Environmental Assessment

As appropriate, the affected environment and environmental consequences of the Proposed Action and No-Action Alternative may be described in terms of site-specific descriptions or regional overview. Mission; airspace and airfield operations, noise, land use; hazardous materials and hazardous wastes; and environmental justice are assessed in this EA.



Golden Triangle Regional Airport

LEGEND

- Runway
- Roadway
- Urbanized Areas

Key Map

3 0 3

Miles

N

742927 GT-BASE.DWG

Location of the Golden Triangle Regional Airport and Columbus AFB

Figure 1.1

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For reasons identified in the following paragraphs, air quality, socioeconomic resources, infrastructure and utilities, water resources, earth resources, biological resources, cultural resources, and asbestos, lead-based paint, and contaminated sites are not analyzed in this EA.

Air Quality. A previous document entitled *Environmental Assessment, Specialized Undergraduate Pilot Training Production Increases, United States Air Force, Air Education and Training Command, Columbus AFB, Mississippi, Laughlin AFB, Texas, Vance AFB, Oklahoma, February 1997*, referred to as the SUPT EA in this document, evaluated the environmental impacts that would result from pilot production at the maximum sustainable levels possible at each base. A FONSI for the action was signed by the Air Force on September 24, 1997. The SUPT EA assessed 244.43 T-1 and 997.54 T-37 daily airfield operations at Columbus AFB. Under the Proposed Action assessed in this document, 97.20 of the T-1 and 64.00 of the T-37 average daily operations assessed in the SUPT EA would be accomplished at the GTRA, with the remaining operations for each aircraft type continuing to be flown at Columbus AFB. Thus, the total operations for each aircraft type at both airports under the Proposed Action assessed in this EA would not exceed the number assessed in the SUPT EA. Columbus AFB and the GTRA are both located in the Northeast Mississippi Intrastate Air Quality Control Region (AQCR) 135, and the SUPT EA assessed air quality from an AQCR-wide perspective. Since the total T-1 and T-37 airfield operations within the AQCR under the Proposed Action assessed in this document would not exceed that assessed in the SUPT EA, the air emissions within the AQCR from T-1 and T-37 operations at GTRA and Columbus AFB would not exceed the emissions identified in the SUPT EA. No significant air quality impacts were identified in the SUPT EA. The regulatory status of the AQCR has not changed since the SUPT EA was prepared and the FONSI signed. Currently, the AQCR is better than national standards for total suspended particulates and sulfur oxides, unclassifiable for ozone and carbon monoxide, and cannot be classified or is better than national standards for nitrogen oxides (USEPA 2002). T-1 aircrews would shuttle between Columbus AFB and GTRA in vehicles such as 15-passenger vans, five days per week. Columbus AFB personnel estimate 10 round trips would be made each day to shuttle aircrews between the Base and the airport. Likewise, it is estimated that one daily round trip would occur to transport as many as three aircraft maintenance personnel between the Base and the airport. The combined 11 vehicle round trips between the Base and the airport would be minimal when compared to the total daily volume of traffic on the route that would be used to shuttle between the base and the airport. Thus, the emissions associated with the 11 daily round trips would be minimal when compared to emissions generated by all other vehicles on the route and air quality would not be significantly affected. No combustive emissions would be generated by construction equipment and no fugitive dust would be generated because no construction or earth disturbing activities would occur at the GTRA. In summary, air quality is not assessed in this EA for the reasons presented in this paragraph.

Socioeconomic Resources, Infrastructure and Utilities, and Water Resources. There would be no changes to personnel staffing levels at Columbus AFB or GTRA. Therefore, no socioeconomic resources (population, housing, employment, and economy) impacts would be anticipated. Because there would be no change in the number of personnel at either the Base or GTRA, there would be no change in the use or generation of infrastructure and utilities (water,

wastewater, energy, and solid waste). There would be no impacts to surface or ground water features because there would be no change in the use of water.

Earth Resources, Biological Resources, and Cultural Resources. No new structures would be constructed nor would any existing facilities be modified at GTRA. Therefore, no ground disturbing activities would occur. Additionally, neither the T-1 nor T-37 produces sound pressure levels that would cause structural damage. Therefore, no earth, biological, or cultural resource impacts would be anticipated.

Asbestos, Lead-Based Paint, and Contaminated Sites. These resources typically are included as subsections in the hazardous materials and wastes section. However, since there would be no permanent construction at GTRA, there would be no impact to these resources. Therefore, they are not assessed in this EA.

1.3.2 Other Actions Considered for Cumulative Impact Purposes

A cumulative impact, as defined by the CEQ (40 CFR 1508.7), is the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." GTRA personnel anticipate one action at the airport during the same time T-1 and T-37 aircraft would be operating there. Under that action, a helicopter manufacturing facility would be constructed at the airport. Construction would begin in March or April 2003 and continue after termination of T-1 and T-37 operations. None of the resources considered in the EA would be affected by those construction activities. Therefore, the other action at the GTRA is not considered for cumulative impact purposes in this EA.

Because of the regional nature of airspace and airfield operations and air quality, and the proximity of the GTRA and Columbus AFB, there is potential for cumulative impacts from the Proposed Action at the GTRA and the runway repair project at the Base. The airspace that would be used for airfield operations and controlled by air traffic control tower personnel under the Proposed Action would extend to about 5 miles from the airport and up to approximately 2,500 feet above ground level (AGL). The dimensions of the airspace used for airfield operations, as well as air traffic control, at Columbus AFB are the same as that at GTRA. Because of the 13-mile distance between the two airfields, there would be an approximate 3-mile "buffer" zone between airfields that would preclude overlap of airfield operations. Additionally, the Columbus Radar Approach Control (RAPCON) provides radar service for aircraft arrivals and departures for both airfields, further reducing the potential for cumulative airspace impacts from airspace and airfield operations at GTRA and Columbus AFB. Combustive emissions would be expected from the construction activities associated with the runway repair project at Columbus AFB. Emissions from the runway repair project would produce slightly elevated air pollutant concentrations. However, effects from these activities would last only as long as the duration of construction activity, fall off rapidly with distance from the construction site, and would not result in long-term impacts. Thus, cumulative airspace and airfield operations and air quality impacts would not be anticipated from the

Columbus AFB runway repair project and the two resources are not considered for cumulative purposes.

1.3.3 Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by the president on February 11, 1994. In the EO, the president instructed each federal agency to make "achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The EO also states there is no need for an environmental justice analysis if there is no environmental impact associated with the Proposed Action or alternatives. Based on analysis conducted for this EA, it is determined that activities associated with the Proposed Action and No Action Alternative would not have adverse environmental effects for the resources considered in this EA. Therefore, no disproportionately high and adverse effects would occur to minority and low-income populations and an environmental justice analysis is not necessary.

1.4 APPLICABLE REGULATORY REQUIREMENTS

No permits would be required by the Proposed Action. The GTRA does not have an air traffic control tower. Under the Proposed Action, an air traffic control tower would be established at the GTRA to control all traffic during the approximate 6-month period during which T-1 and T-37 aircraft would operate at the airport. The GTRA Manager and Columbus AFB operations personnel would coordinate with the Federal Aviation Administration (FAA) to redesignate the airspace immediately surrounding GTRA to the category associated with an operating air traffic control tower.

1.5 ORGANIZATION OF THE DOCUMENT

This EA is organized into seven chapters.

Chapter 1 Contains background information; a statement of the purpose of and need for action; a statement of the decision to be made; the location of the Proposed and Alternative Actions; the scope of the environmental review; presents the applicable regulatory requirements; and describes the organization of the EA.

Chapter 2 Provides a discussion on the development of alternatives; describes the alternatives eliminated from further consideration; details the Proposed Action and No Action Alternative; summarizes the environmental impacts for all alternatives; and lists mitigation that could reduce the potential for impacts.

Chapter 3 Contains a general description of the biophysical resources and baseline conditions that potentially could be affected by the Proposed Action or No Action Alternative.

Chapter 4	Discusses the environmental consequences.
Chapter 5	Lists preparers of this document.
Chapter 6	Lists the persons and agencies consulted in the preparation of this EA.
Chapter 7	Lists the sources of the information used in the preparation of this EA.
Appendix A	Contains Air Force Form 813
Appendis B	Contains interagency and intergovernmental correspondence for environmental planning

CHAPTER 2
ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter has six sections: a discussion on alternatives development; identification of alternatives eliminated from further consideration; a detailed description of the Proposed Action; a description of the No Action Alternative; a comparison of the environmental impacts of all alternatives; and discussion of mitigation.

2.1 ALTERNATIVES DEVELOPMENT

Personnel from the 14th Operations Support Squadron (14 OSS), the organization that oversees flying training at Columbus AFB, preliminarily identified five airports suitable for further consideration for use by T-1 and T-37 aircraft on a temporary basis while 13R/31L at the Base is closed for repair and repaving. The airports were identified by reviewing aeronautical charts for the areas below the Columbus Military Operations Areas (MOA) and the airspaces used for flying training by Columbus AFB aircrews. Table 2.1 lists the five airports identified in the chart review process.

Table 2.1 Airports Identified for Further Consideration as the Temporary Training Airport

Airport
Tupelo Municipal Airport, Tupelo, MS
Tuscaloosa Municipal Airport, Tuscaloosa, AL
Starkville Municipal Airport, Starkville, MS
Golden Triangle Regional Airport, Columbus, MS
Greenwood-LeFlore Municipal Airport, Greenwood, MS

2.2 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Personnel from the 14 OSS developed five criteria for use in the temporary airport selection process. The specific criteria identified and used in the process are:

Relationship of the Airport and the Airspace Used For T-1 And T-37 Training. The training airport should be within the area formed by the downward extension of the lateral boundaries of the MOAs that would be used for training maneuvers such as stall recoveries, aerobatics, *etc.* This relationship is beneficial because the training sortie "flow" from Columbus AFB to the MOA and the training airport (or vice versa) and then back to the Base minimizes transit time between the three training locations and reduces fuel use. Less transit time is desired because it affords the student additional time during the sortie to practice more important training events such as takeoffs, landings, stall recoveries, and aerobatics.

Airport Aircraft Traffic. The airport must be one at which the T-1 and T-37 would be the primary operating aircraft. Additionally, the airport must not have an existing high use rate

by other military or civil aircraft that would limit or restrict use for T-1 and T-37 operations. As a general rule, the airport should not average more than 100 average daily operations by other aircraft. The airport must not be near airspaces (*i.e.*, MOAs, Alert Areas, restricted areas, military low-level navigation training routes, or federal airways) or other airports that would have air traffic that would interfere with T-1 and T-37 operations at the training airport. The airspace surrounding the airport must permit establishment of arrival and departure routes compatible with T-1 and T-37 traffic patterns at the airport.

Relationship of the Airport to Columbus AFB. Locating the airport as close as possible to Columbus AFB would reduce the enroute time between the airport and the Base. Less transit time is desired because it affords the student more time during the sortie to practice more important training events such as takeoffs, landings, stall recoveries, and aerobatics. A more distant airport would require extension of the training sortie to offset the increased enroute time to allow the students the time required to practice takeoffs, landings, and airmanship events. The training airport should be within a 30-minute drive from Columbus AFB to minimize transit time for the T-1 aircrews and aircraft maintenance personnel who would shuttle between the Base and the airport on a daily. The airport must not be at a distance that would require personnel to remain overnight and incur lodging and per diem expenses. The distance between Columbus AFB and the airport should allow the Air Force to economically transport jet fuel from the Base to the airport should the need arise.

Runway Dimensions and Aircraft Arresting Cables. The minimum runway length and width for T-1 operations is 6,000 feet long and 100 feet wide, while the minimum runway dimensions for T-37 operations is 5,000 feet long and 75 feet wide. Thus, when considering the more restrictive runway length, the temporary training airport must be at least 6,000 feet long and 100 feet wide to meet T-1 requirements. No aircraft arresting cables should be installed on the runway because neither the T-1 nor T-37 should operate from runways that have this equipment.

Infrastructure. The airport must have sufficient apron space to permit parking as many as 18 T-1 aircraft. The airport must have an operating air traffic control tower or have the infrastructure that would permit the Air Force to place a mobile tower at the airport for use for an approximate 6-month period. The airport must have a contractor which can provide jet fuel if the distance between Columbus AFB and the airport would preclude the Air Force from trucking fuel from the Base.

Personnel from the 14 OSS gathered the applicable information and data for each airport and compared them with the five criteria to determine if the airport could be used for T-1 and T-37 operations on a temporary basis. An "X" in a criterion column in Table 2.2 indicates the airport did not meet the requirements of that specific criterion.

Table 2.2 Airport Elimination from Further Consideration Matrix

Airport	Criterion				
	Relationship of Airport to Training Airspace	Airport Aircraft Traffic	Relationship of the Airport to Columbus AFB	Runway Dimensions and Aircraft Arresting Cables	Infrastructure
Tupelo		X	X		
Tuscaloosa	X	X	X		
Starkville	X			X	
Golden Triangle Regional Airport					
Greenwood-LeFlore	X		X		

Note: An "X" in a criterion column indicates the airport did not meet the requirements of that specific criterion.

Based on the criteria and the elimination process described in the preceding paragraphs and as summarized in Table 2.2, the GTRA would be the airport most suitable for use on a temporary basis for T-1 and T-37 operations during the repair and repaving activities of 13R/31L at Columbus AFB.

2.3 DESCRIPTION OF THE PROPOSED ACTION

Under the Proposed Action, Columbus AFB would rotate as many as 18 T-1 aircraft to the GTRA on a weekly basis from approximately February through July 2003. T-1 flying training sorties would be flown from GTRA Mondays through Fridays, and airfield operations would be accomplished at the airport over a 6-month period. Each T-1 aircraft would launch its first training sortie on Monday from Columbus AFB and would terminate at GTRA. Subsequent training sorties on Monday afternoons, Tuesdays through Thursdays, and Friday mornings would launch and terminate at GTRA. The Friday afternoon sorties would launch from the GTRA and terminate at Columbus AFB. Thus, T-1 aircraft would be parked on the apron at the GTRA from about midday Monday through approximately midday Friday, and at Columbus AFB on weekends. T-37 aircraft would continue to be parked at and launch and terminate sorties from Columbus AFB; however, T-37 airfield operations would be accomplished at the GTRA Mondays through Fridays during the 6-month period.

Throughout this document, two terms are used to describe flying operations: sortie; and airfield operation. Each has a distinct meaning and commonly applies to a specific set of activities in particular airspace areas.

A sortie is a single military aircraft flight from initial takeoff through the termination landing.

An airfield operation is the single movement or individual portion of a flight in the airfield environment, such as one departure (takeoff), one arrival (landing), or one transit of the airport traffic area. The airfield environment typically is referred to as the airspace allocated to the air traffic control tower and includes airspace within an approximate 5-mile radius of the airfield and up to 2,500 feet AGL. A touch and go landing, a low approach, or a missed approach consists of two airfield operations, *i.e.,* one arrival and one departure. A closed pattern, which includes touch and go operations, consists of two airfield operations (*i.e.*, one takeoff and one landing), and includes successive takeoffs and landings or low approaches where the aircraft does not exit the traffic pattern. A touch and go landing is accomplished when the aircrew adds power as the aircraft wheels contact the runway on landing and then immediately transitions to a takeoff without stopping. A low approach is similar to a touch and go; however, power is added before the aircraft touches the runway and transitions into a takeoff without landing. The minimum number of airfield operations for one sortie is two operations, one takeoff (departure) and one landing (arrival).

A typical T-1 sortie flown from GTRA would consist of a departure from the airport in which the aircraft would proceed to points about 3 miles to the north or south of the airport. At these points, the aircraft would receive radar service from the Columbus RAPCON and proceed to a MOA for airmanship maneuvers training or to another airport for traffic pattern training (or vice versa) and then return to GTRA for sortie termination. Upon return to GTRA, the aircraft would be controlled by the Columbus RAPCON to points about 7 miles to the north of the airport for an instrument approach, or 5 miles to the north or south for a visual approach or arrival. From these points, the aircraft would enter the GTRA traffic pattern by a straight-in instrument approach, a visual straight-in approach, or an arrival at 1,000 feet AGL to an overhead pattern. Approximately 50 percent of the arriving aircraft would accomplish a full stop landing at the end of the instrument approach, straight-in approach, or overhead pattern. The other 50 percent would accomplish one closed pattern after the touch and go landing at the end of the instrument approach, straight-in approach, or overhead pattern. T-1 aircraft traffic patterns would be accomplished both east and west of Runway 18/36 at GTRA. Overhead patterns for the T-1 would be flown at an altitude of 1,000 feet AGL.

A typical T-37 sortie would consist of a departure from Columbus AFB on which the aircraft proceeds to the MOA for airmanship maneuvers training or to GTRA for traffic pattern training (or vice versa) and then returns to the Base for sortie termination. T-37s typically would be controlled by the Columbus RAPCON to points about 5 miles to the north or south of GTRA. From those points, the aircraft would enter the GTRA traffic pattern either by a visual straight-in approach at 500 feet AGL or a straight-in arrival at 1,000 feet AGL to an overhead pattern. Each aircraft would remain in the traffic pattern for approximately three closed patterns after the touch and go landing at the end of the straight-in approach or overhead pattern. T-37 aircraft traffic patterns would be accomplished both east and west of Runway 18/36. Overhead patterns for the T-37 would be flown at an altitude of 1,000 feet AGL. The aircraft would depart by proceeding straight-out to a point about 3 miles to the north or south of GTRA and obtain radar service from the Columbus RAPCON for return to the Base or to proceed to the MOA for airmanship training.

Table 2.3 lists the projected average daily airfield operations for T-1 and T-37 aircraft at GTRA. It is anticipated that flying activity would occur at GTRA about 5 days per week for the approximate 6-month period. However, operations could occur on weekend days if required to maintain the flying training schedule. No airfield operations would be conducted at nighttime (10:00 p.m. and 7:00 a.m.).

Table 2.3 Summary of Average Daily Airfield Operations

Aircraft	Arrival and Departure Operations	Closed Pattern Operations	Total Operations
T-1	64.80	32.40	97.20
T-37	16.00	48.00	64.00
Total	80.80	80.40	161.20

Note: No T-1 or T-37 airfield operations would occur between 10:00 p.m. and 7:00 a.m.

The GTRA does not have an air traffic control tower. Accordingly, the Air Force would transport a mobile air traffic control tower to the airport from another location for use in controlling all aircraft traffic at the airport during the period ofT-1 and T-37 operations. The tower would be sited to provide the required obstacle clearance between it and the runway and taxiways. Trenching would be accomplished to provide electrical service to the tower. The airspace within an approximate 5-mile radius of the GTRA and up to 2,500 feet AGL would be designated as class D airspace when the air traffic control tower would be operating.

Crash, rescue, and fire protection for T-1 and T-37 aircraft operations would be provided by the GTRA fire department. Fire fighters from the department would be trained by the Columbus AFB fire department on procedures unique to T-1 and T-37 aircraft before the aircraft would begin operating at the airport.

No extensive aircraft maintenance activities would be anticipated to occur at GTRA other than the rare occasion when a T-1 or T-37 aircraft might land at the airport due to an emergency that would require maintenance before being capable of a subsequent flight. Routine aircraft maintenance would be accomplished at Columbus AFB. T-1 aircraft would be refueled from trucks.

2.4 DESCRIPTION OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, Columbus AFB would not locate T-1 aircraft at the GTRA or conduct T-1 and/or T-37 airfield operations at the airport while 13R/31L at Columbus AFB was closed for repair and repaving.

2.5 COMPARISON OF ENVIRONMENTAL EFFECTS OF ALL ALTERNATIVES

Table 2.4 summarizes the impacts of the Proposed Action, Alternative Action, and No Action Alternatives.

2.6 MITIGATION

No significant impacts would occur under the Proposed Action or No Action Alternative. No mitigation would be required.

Table 2.4 Summary of Environmental Impacts for the Proposed Action and No Action Alternative

Resource (Applicable Sections)	Proposed Action	No Action Alternative
Airspace and Airfield Operations (Section 4.2)	The existing standard routings established by Columbus RAPCON and used under the baseline condition for aircraft to proceed to and from the GTRA would accommodate the T-1 and T-37 aircraft. Establishment of Class D airspace and the air traffic control procedures that would be implemented to control aircraft in the airspace would improve air traffic control within the airspace in that the level of control would be increased when compared to that for Class E. The airspace surrounding the GTRA and the anticipated air traffic control procedures could accommodate the T-1 and T-37 airfield operations without conflict from other aviation activity.	There would be no change from the baseline condition, which produces no significant impacts.
Noise (Section 4.3)	There would an additional 977 acres and 8 persons within the day-night average sound level (DNL) 65 dBA and greater noise exposure area. The maximum sound exposure level at any of the four specific analysis points from T-1 and T-37 operations would be 103 dBA, which is about 6 dBA less than the baseline condition. There would be no noise induced hearing loss or nonauditory health effects. There would be no change from the baseline condition sleep awakenings because the type and number of civil aircraft operations would be the same as the baseline, and T-1 and T-37 aircraft would not operate during normal sleep periods. However, those individuals who sleep between 7:00 a.m. and 10:00 p.m. likely would be affected just as those persons who sleep during normal sleep periods.	There would be no change from the baseline condition, which produces no significant impacts.
Land Use (Section 4.4)	Although the noise exposure area would increase, the additionally exposed areas would continue to be farmland and no other land use types would be exposed to aircraft noise. There would be no change to land use patterns and categories.	There would be no change from the baseline condition, which produces no significant impacts.
Hazardous Materials and Wastes (Section 4.5)	Any hazardous materials used at GTRA for T-1 aircraft maintenance would be the same as those used at Columbus AFB. Therefore, no new hazardous materials would be required. Hazardous materials used for aircraft maintenance would be purchased and stored in accordance with the Columbus AFB Hazardous Materials Management Plan, which would not require revision. No new hazardous waste streams would be anticipated because T-1 maintenance activity would be the same as that at Columbus AFB. Any hazardous waste generated in association with T-1 maintenance would be handled in accordance with the Columbus AFB Hazardous Waste Management Plan, which would not be affected.	There would be no change from the baseline condition, which produces no significant impacts.

CHAPTER 3
AFFECTED ENVIRONMENT

This chapter describes the existing environmental resources that could be affected by or could affect the Proposed and No Action Alternative. Only those specific resources relevant to the potential impacts are described in detail.

3.1 MISSION

The GTRA is operated by the Golden Triangle Airport Commission, which includes representatives from the Mississippi Cities of Columbus, Starkville, and West Point, as well as Lowndes County. Commercial passenger service is provided by two air carriers. A fixed base operator at the GTRA offers charter flights, air freight service, flight/pilot training, aircraft maintenance, and other aviation needs.

3.2 AIRSPACE AND AIRFIELD OPERATIONS

Airspace is a finite resource defined vertically, horizontally, and temporally. As such, it must be managed and used in a manner that best serves the commercial, general, and military aviation needs. The FAA is responsible for overall management of airspace and has established different airspace designations to protect aircraft while operating to or from an airport, transiting enroute between airports, or operating within "special use" areas identified for defense-related purposes. Rules of flight and air traffic control procedures published as Federal Aviation Regulations (FAR) have been established to govern how aircraft must operate within each type of designated airspace. The FARs apply to both civil and military aircraft operations unless the FAA grants the military service an exemption or the FAR specifically excludes military operations. All aircraft operate under either Instrument Flight Rules (IFR) or Visual Flight Rules (VFR).

The airspace region of influence (ROI) includes airspace within an approximate 5-mile radius of the GTRA and up to about 2,500 feet AGL. The airspace within the ROI is designated as Class E airspace, defined as airspace extending upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace up to but not including, 18,000 feet above mean sea level, and excluding other airspace classes. The Columbus RAPCON located at Columbus AFB, provides radar service to aircraft transiting the ROI as well as to aircraft proceeding to or departing from the GTRA. The FAA's Memphis Air Route Traffic Control Center provides this service when the Columbus RAPCON is not operating.

The GTRA does not have an air traffic control tower. However, pilots of arriving and departing aircraft are requested to advise other pilots who may be operating at the airport or within the ROI airspace of their intentions via radio calls on a common frequency assigned to the airport. One federal airway passes through the ROI airspace. The Oktibbeha Airport is located about 5 miles northwest of the GTRA. There are no military low-level navigation training routes or special use airspaces within the ROI airspace. One precision and two nonprecision instrument approach procedures are published for the airport for use in aircraft

approaches during low ceiling and/or visibility conditions. Runway 18/36 is 6,497 feet long and 150 feet wide. There are 14 civil aircraft based at the GTRA.

Table 3.1 lists the baseline condition airfield operations for the GTRA. Approximately 16 percent of the operations occur during nighttime (10:00 p.m. to 7:00 a.m.). Both the Learjet and turboprop categories include aircraft used for commercial passengers as well as general aviation. The twin and single engine categories include general aviation aircraft operated for personal use as well as flying training conducted by the fixed base operator.

Table 3.1 Baseline Airfield Operations, Golden Triangle Regional Airport

Aircraft	Arrival and Departure Operations	Closed Pattern Operations	Total Operations
Learjet	19.84	0.00	19.84
Turboprop	24.00	0.00	24.00
Twin Engine	4.68	0.84	5.52
Single Engine	4.66	0.84	5.50
Total	53.18	1.68	54.86

Source: Ratliff 2002.

3.3 NOISE

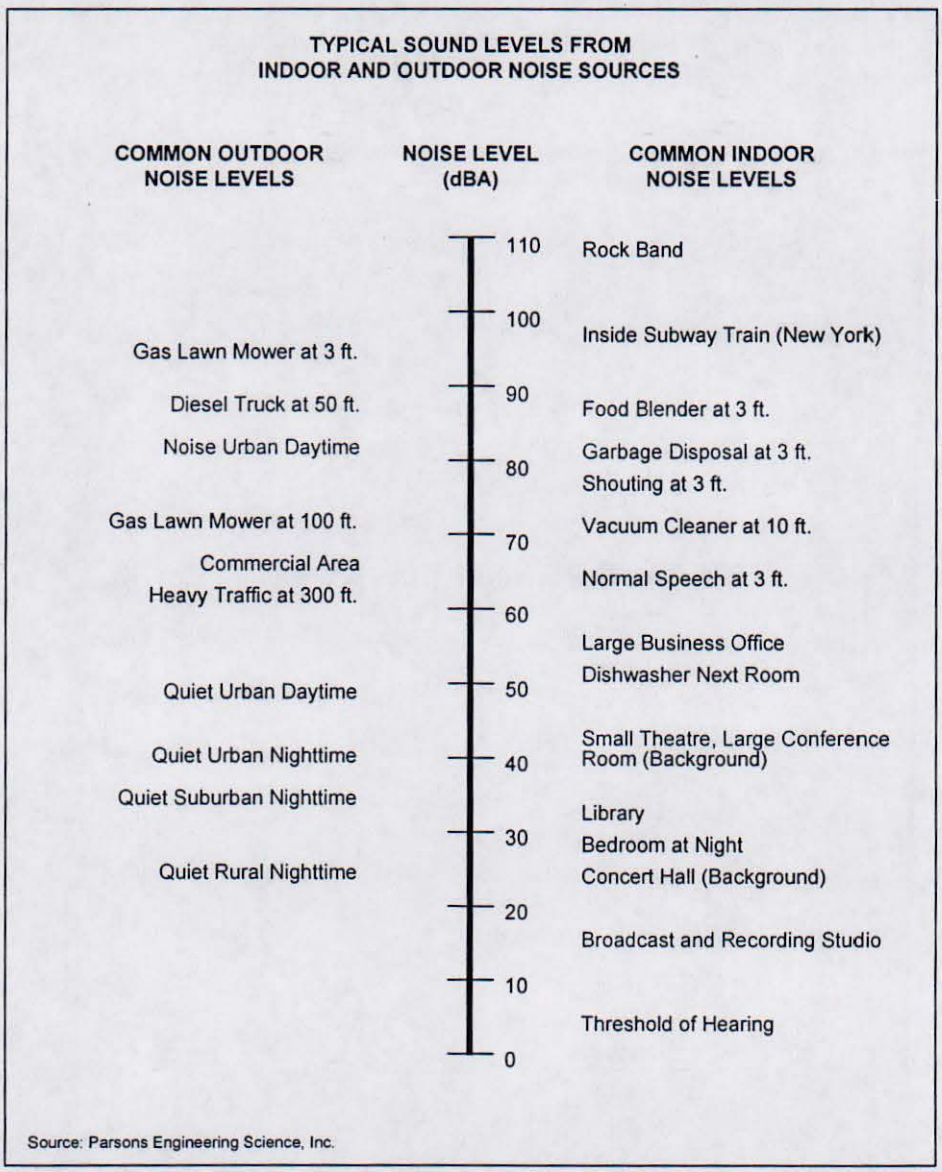
Aviation-related activities at the GTRA dominate the acoustic environment. Vehicular activity associated with airfield operations contributes little to the general background noise levels around the airport. Thus, vehicle-generated noise will not be further analyzed.

The characteristics of sound include parameters such as amplitude (loudness), frequency (pitch), and duration. Sound varies over an extremely large range of amplitudes. The decibel (dB) is the accepted standard unit for describing levels of sound. Decibels are expressed in logarithmic units to account for the variations in amplitude. On the decibel scale, an increase of 3 dB represents a doubling of sound energy. A difference on the order of 10 dB represents a subjective doubling of loudness.

Different sounds have different frequency contents. Because the human ear is not equally sensitive to sound at all frequencies, a frequency-dependent adjustment, called A-weighting, was developed to measure sound similar to the way the human hearing system responds. The adjustments in amplitude, established by the American National Standards Institute (ANSI S1.4 1983), are applied to the frequency content of the sound. Figure 3.1 depicts typical A-weighted sound pressure levels (dBA) for various sources. As indicated in the figure, 65 dBA is equivalent to normal speech at a distance of 3 feet.

Noise is defined as sound that is undesirable because it interferes with speech and hearing, is intense enough to damage hearing, or is otherwise annoying. Noise levels change with time and the distance of the receptor from the noise source.

Figure 3.1 Typical A-Weighted Noise Levels



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3.3.1 Sound Metrics and Analysis Methodology

To assess the impacts of sound, a variety of metrics may be used. Depending on the specific situation, appropriate analysis may include single event or cumulative metrics. Single event metrics are used to assess the potential impacts of sound on structures and animals, and are sometimes used in the assessment of human effects. Sound Exposure Level (SEL), a single event metric, is commonly used to evaluate sleep disturbance. Cumulative metrics are useful in characterizing the overall noise environment and are the primary metrics used in analysis of community (population) exposure to noise. Cumulative sound exposure is expressed as the Day-Night Average Sound Level (DNL) metric. The United States Environmental Protection Agency (USEPA) selected DNL as the uniform descriptor of cumulative sound exposure. Subsequently, Federal agencies, including the Department of Defense (DoD), adopted DNL for expressing cumulative sound exposure events.

3.3.1.1 Single Event Sound Metrics

Although the Maximum Sound Level (L_{max}), the highest A-weighted sound level measured during an event, is the most easily understood descriptor for a noise event, alone it provides little information. Specifically, it provides no information concerning either the duration of the event or the total sound energy associated with the event. SEL is a measure of the physical energy of the noise event which takes into account both intensity and duration. Subjective tests indicate that human response to noise is a function not only of the maximum level, but also of the duration of the event and its variation with respect to time. Evidence indicates that two noise events with equal sound energy will produce the same response. For example, a noise at a constant level of 85 dBA lasting for 10 seconds would be judged to be equally as annoying as a noise event at a constant level of 82 dBA and duration of 20 seconds (*i.e.,* 3 dBA decrease equals one half the sound energy but lasting for twice the time period). This is known as the "equal energy principle." The SEL value represents the A-weighted level of a constant sound with a duration of 1 second, providing an amount of sound energy equal to the event under consideration. By definition, SEL values are referenced to a duration of 1 second and should not be confused with either the average or maximum noise levels associated with a specific event. When an event lasts longer than 1 second, the SEL value will be higher than the L_{max} of the event. For aircraft overflight, the maximum noise level typically would be 5 to 10 dBA below the SEL value. Table 3.2 provides SEL and L_{max} values for aircraft at GTRA at a distance of 1,000 from the aircraft. SEL is used in this report when discussing sleep disturbance and effects on structures.

Table 3.2 Sound Exposure Level and Maximum Sound Level for Aircraft at Golden Triangle Regional Airport

Aircraft Type	Sound Exposure (SEL) (dBA)	Maximum Sound Level (Lmax) (dBA)*
Learjet	109	99
Turboprop	87	77

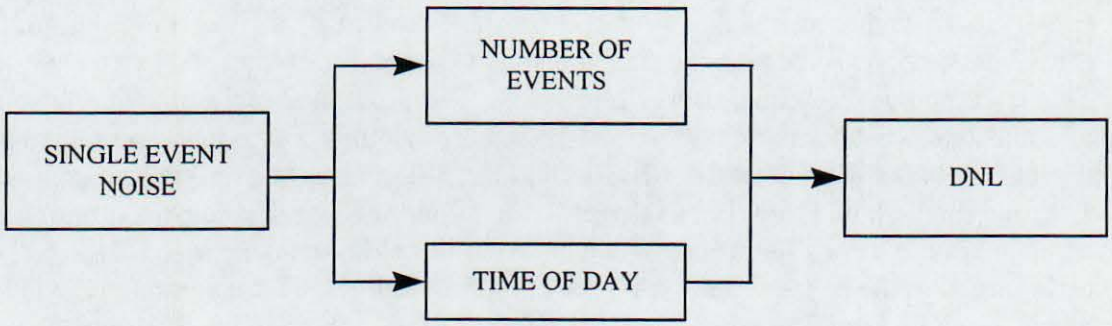
Note: At nominal takeoff thrust and airspeed and at a slant distance of 1,000 feet from the aircraft.

The frequency, sound level, and duration of aircraft flyover noise events depend on variables including aircraft type and model (engine type), aircraft configuration (*i.e.,* flaps, landing gear, *etc.*), engine power setting, aircraft speed, distance between the observer and the aircraft flight track, temperature, humidity, and altitude above sea level. Therefore, extensive noise data are collected for various types of aircraft/engines at different power settings and phases of flight. This extensive database of aircraft noise data provides a basis for calculation of average individual-event sound descriptors for specific aircraft operations at any location under varying meteorological conditions. The reference values are adjusted to any location by applying appropriate corrections for the variables.

3.3.1.2 Cumulative Sound Metrics

Single event analysis has a major shortcoming -- single event metrics do not describe the overall noise environment. DNL measures the total noise environment. DNL is the sum of the noise energy for all aircraft noise producing events over a 24-hour period, with a 10 dBA adjustment added to each nighttime events (between 10:00 p.m. and 7:00 a.m.). Figure 3.2 depicts the relationship of the single event, the number of events, the time of day, and DNL. This adjustment is an effort to account for increased human sensitivity to nighttime noise events. The summing of sound during a 24-hour period does not ignore the louder single events -- it actually tends to emphasize both the sound level and number of those events. The logarithmic nature of the dB unit causes sound levels of the loudest events to control the 24 hour average.

Figure 3.2 Day-Night Average A-Weighted Sound Level



DNL is an accepted unit for quantifying annoyance to humans from general environmental noise, including aircraft noise. The Federal Interagency Committee on Urban Noise (FICUN) developed land use compatibility guidelines for noise exposure areas. Based upon these FICUN guidelines, the FAA developed recommended land uses in aircraft noise exposure areas. The DoD uses the DNL descriptor as the method to estimate the amount of exposure to aircraft noise and predict impacts. Land use compatibility and incompatibility are determined by comparing the predicted DNL level at a site with the recommended land uses.

3.3.1.3 Sound Analysis Methodology

The sound analysis methodology used in this EA is based on the NOISEMAP noise model. The NOISEMAP program is a suite of computer programs developed by the Air Force to predict noise exposures in the vicinity of an airfield due to aircraft flight, maintenance, and ground run-up operations. Data describing flight tracks and flight profile use, power settings, ground run-up information by type of aircraft/engine, and meteorological variables are assembled and processed for input into NOISEMAP. The model uses this information to calculate SEL and DNL values at points on a regularly spaced grid surrounding the airfield. A plotting program generates contour lines connecting points of equal DNL values in a manner similar to elevation contours shown on topographic maps. Contours are generated as 5 dB intervals beginning at DNL 65 dBA, the maximum level considered acceptable for unrestricted residential use. NOISEMAP generates a wide variety of reports that are useful for comparative analysis.

3.3.2 Baseline Noise Analysis

The primary source of noise in the vicinity of GTRA from the airfield operations listed in Table 3.1. Approximately 16 percent of the operations occur during the nighttime (10:00 p.m. to 7:00 a.m.). Figure 3.3 shows the aircraft ground tracks and Figure 3.4 depicts the noise exposure area for the baseline condition. Residences and public use facilities such as schools, libraries, hospitals, churches, and nursing homes are more sensitive to noise than those in other types of facilities because the activities that take place in these structures require lower sound levels. These types of facilities typically are identified for specific analysis in noise studies. However, none of these facilities occur in the areas off the ends of the runway or below the flight tracks. Thus, four points off the ends of the runway and below the closed pattern flight tracks were selected for specific analysis. Table 3.3 lists the outdoor SEL values for the specific analysis points for this assessment.

Table 3.3 Baseline SEL from Airfield Operations at Specific Analysis Points, Golden Triangle Regional Airport

Number	Description	SEL (dBA)	Aircraft
1	Below North Extended Runway Centerline	109	Learjet
2	Below West Closed Pattern	60	Learjet
3	Below South Extended Runway Centerline	109	Learjet
4	Below East Closed Pattern	60	Learjet

Note: The specific analysis point number and description correspond to the point as reflected on the noise contour and aircraft ground track figures. Aircraft column reflects the aircraft operating at the GTRA that generates the maximum estimated SEL for the specific analysis point.

3.3.2.1 Single Event Noise Analysis

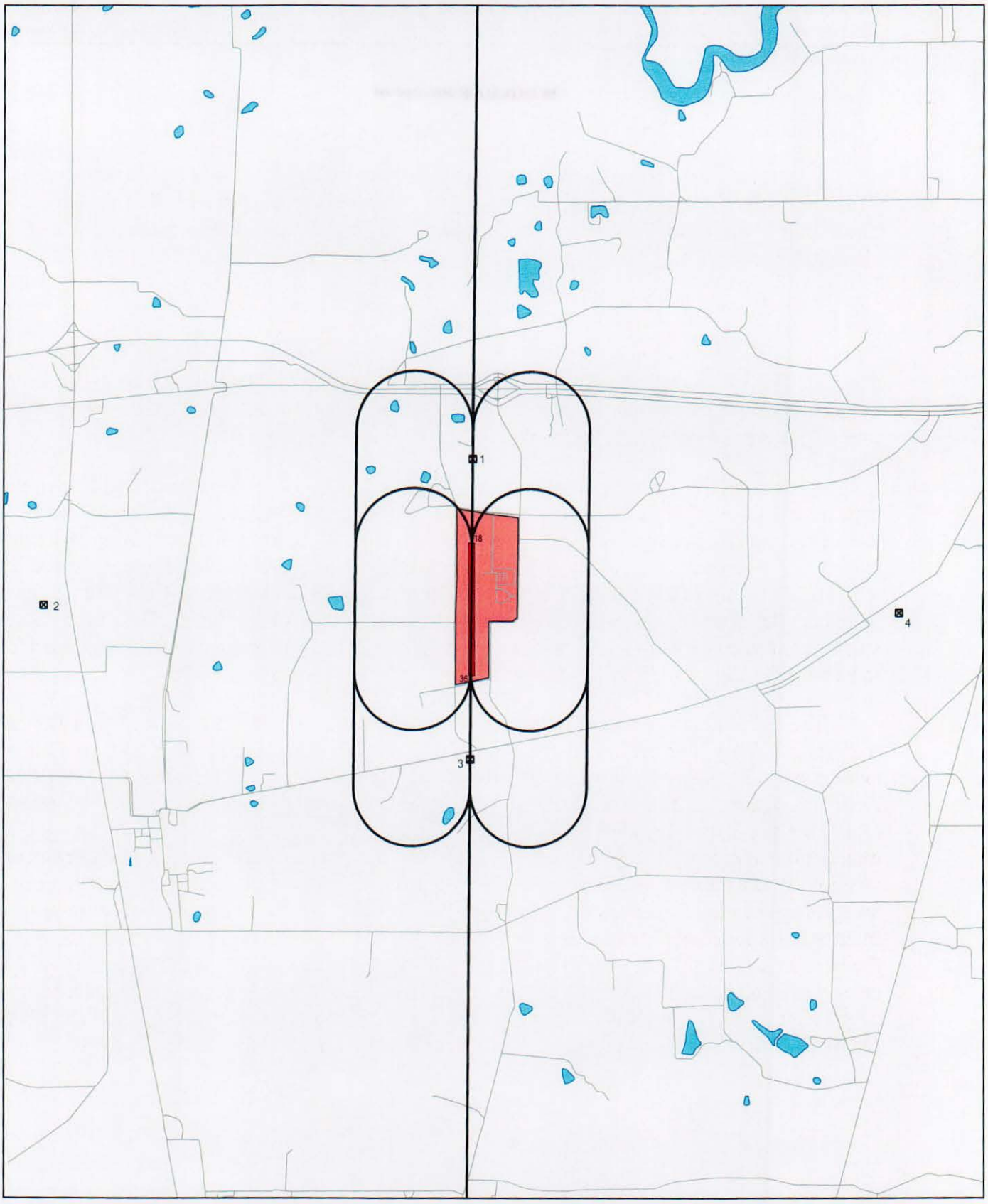
Single event analysis is conducted to evaluate sleep disturbance and effects on structures. Figures 3.3 and 3.4 show four specific analysis points in the area surrounding the airfield. These points are residences and other facilities that may be sensitive to noise from single aircraft flyover events.

Sleep Disturbance

Noise from low-flying aircraft arriving at and departing from an airfield at night may cause sleep disturbance. DNL incorporates consideration of sleep disturbance by assigning a 10 dBA penalty to nighttime noise events (10:00 p.m. to 7:00 a.m.). However, single noise events, not average sound levels, correlate better with sleep disturbance.

Studies have estimated the percentage of awakenings that may be experienced by people exposed to different single noise events. Based on those studies, in 1992 FICON recommended use of an interim dose-response curve to predict the percentage of the exposed population expected to be awakened as a function of the exposure to single-event noise levels expressed in terms of SEL. Since the adoption of the interim curve in 1992, substantial field research has been completed using a variety of test methods and a number of locations. Data from these studies show a consistent pattern, with a smaller percentage of the exposed population expected to be behaviorally awakened than had been shown in laboratory studies.

The Federal Interagency Committee on Aviation Noise (FICAN) (formed in 1993 as recommended by FICON) now recommends a new dose-response curve for predicting awakening. Figure 3.5 compares the 1997 FICAN recommendation to the 1992 FICON recommendation. FICAN takes the conservative position that, because the adopted curve represents the upper limit of the data presented, it should be interpreted as predicting the maximum percentage of the exposed population expected to be awakened. Based on this new position, it is estimated that outdoor SELs of 80 to 100 dBA could result in 4 to 10 percent awakenings in the exposed population. Noise must penetrate the residence to disturb sleep. Interior noise levels are lower than exterior levels due to the attenuation of the sound energy by the structure. The amount of attenuation provided by the building is dependent on the type of construction and whether the windows are open or closed. The approximate national average attenuation factors are 15 dBs for open windows and 25 dBs for closed windows (USEPA 1974). The Air Force normally uses 20 dBA to estimate attenuation for closed windows.



Golden Triangle Regional Airport

LEGEND

Flight Track

Analysis Point

Runway

Roadway

Golden Triangle Regional Airport

7,000 0 7,000

Feet

N

742927 GT-BLGT.DWG

Baseline Aircraft Ground Tracks
Golden Triangle Regional Airport

Figure 3.3

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Golden Triangle Regional Airport

LEGEND

- DNL 65 dB Contour
- DNL 70 dB Contour
- DNL 75 dB Contour
- DNL 80 dB Contour
- Runway
- Roadway
- Analysis Point
- Golden Triangle Regional Airport

4,000 0 4,000

Feet

N

742927 GT-BLNC.DWG

Baseline Noise Contours Golden Triangle Regional Airport

Figure 3.4

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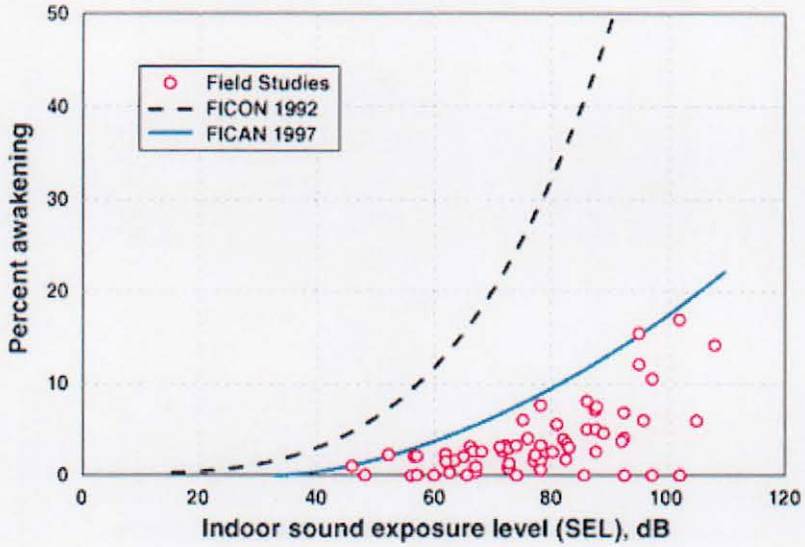
Figure 3.5 Recommended Sleep Disturbance Dose-Response Relationship



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Effects of Noise on Structures

Possible noise-related impacts on structures need to be considered in the context of accepted research results. The recent development of larger commercial and military aircraft has prompted research into the effects of sound vibrations on both modern and historic structures.

All structures are subjected to many sources of physical stress. Natural stressors include changes in temperature and humidity, wind pressure, thunder, snow load, and seismic disturbances. Human activities such as construction blasting, heavy machinery operation, and ground vehicle movement also induce stress. Even household activities such as vacuum cleaners and washing machines can stress buildings. Nonetheless, buildings are generally designed to withstand natural environmental stresses and normal usage.

Some building materials are more sensitive than others to external pressures and induced vibrations. Windows with large panes of glass are most vulnerable. Plaster walls in frame buildings are susceptible to cracking. Components least likely to experience damage are masonry walls of stone, concrete block, adobe, or brick. Appropriate building design can also reduce the possibility of damage from vibration. Research has not proven categorically that old buildings are more vulnerable to vibration than newer buildings, but prudence dictates special consideration be given to unique structures of historical significance. Table 3.4 lists the effects of sound on structures.

Table 3.4 Effects of Sound on Structures

Decibels	psf[a]	Effects Summary	
0-127	0-1	Typical community exposures	No damage to structures No significant public reaction
127-131	1.0-1.5	(generally below 2 psf)	Rare minor damage Some public reaction
131-140	1.5-4.0	Window damage possible, increasing public reaction, particularly at night	
140-146	4.0-8.0[b]	Incipient damage to structures	
146-171	8.0-144.0	Measured booms at minimum altitudes experienced by humans; no injury	
185	720.0	Estimated threshold for eardrum rupture (maximum overpressure)	
194	2,160.0	Estimated threshold for lung damage (maximum overpressure)	

psf = pounds per square foot.

With the exception of window glass breakage, booms less than 11 psf should not damage "building structures in good repair" (Clarkson and Mayes, 1972).

Source: Speakman, 1992.

3.3.2.2 Cumulative Airfield Operations Noise Analysis

Figure 3.4 shows DNL noise contours. The contours are long and narrow because of the greater number of straight-in and straight-out arrivals and departures than closed patterns. The DNL 65 dBA contour extends about 1.5 miles north and 1.3 miles south of the respective runway end.

Noise annoyance is defined by the USEPA as any negative subjective reaction to noise by an individual or group. Table 3.5 presents results of over a dozen studies on the relationship between noise and annoyance levels. This relationship was suggested by Schultz (1978) and was reevaluated (Fidell *et al.* 1988) for use in describing people's reactions to environmental noise. These data provide a perspective on the level of annoyance that might be anticipated. For example, 12 to 22 percent of people exposed on a long-term basis to DNL 65 to 70 dBA are expected to be highly annoyed by noise events. The study results summarized in Table 3.5 were based on outdoor noise levels.

Table 3.5 Theoretical Percentage of Population Highly Annoyed by Noise Exposure

DNL Intervals in dBA	Percentage of Persons Highly Annoyed
<65	<12
65-70	12-22
70-75	22-37
75-80	37-54
>80	>54

Note: Noise impacts on individuals vary as do individual reaction to noise. This is a general prediction of the percent community highly annoyed based on environmental noise surveys conducted around the world.

Source: Adapted from NAS 1977

Airfield operations data were used to establish the baseline noise condition. As indicated in Table 3.1, 54.86 average daily airfield operations occur at the GTRA. Table 3.6 lists the number of acres and people within the DNL 65 dBA and greater noise exposure area for the baseline condition, as well as the estimated number of people who might be highly annoyed by noise at those levels.

Table 3.6 Baseline Noise Exposure, Golden Triangle Regional Airport

	DNL Noise Zone (dBA)				
Category	65-70	70-75	75-80	80+	Total
Acres	553	137	91	40	821
People	1	0	0	0	1
People Highly Annoyed	0	0	0	0	0

Note: It was assumed that population was equally distributed within a census block-group area from the United States Census Bureau 2000 census. Using this assumption, the total acreage and population in each block-group surrounding the GTRA was collected and assessed. The number of acres of land in each noise zone was divided by the number of acres of land in each census block-group to determine what portion of the census block-group was contained within each noise zone. The population total in each census block-group was then multiplied by this ratio to estimate affected population. The number of people highly annoyed was determined by multiplying the population for the noise zone by the higher number of the range for the noise zone from Table 3.5.

Elevated noise levels can interfere with speech, cause annoyance or communication difficulties, and disrupt sleep. Based on a variety of studies, there is a good probability of frequent speech disruption at DNL or DNL 75 dBA. This level produces ratings of "barely acceptable" for intelligibility of spoken communication (AIHA 1996).

3.4 LAND USE

Land use around GTRA consists primarily of rural farmland with residences scattered along the county roads and highways. The farmland is used for agricultural activities such as cropland and grazing, while the land not used for agriculture is wooded. The only concentration of urban development in the area around the GTRA is the City of Artesia, which is about 4 miles west-southwest of the GTRA. The city had a population of 498 persons according to the 2000 census. An industrial park is located about 1 mile east of the GTRA. The Mississippi Sheriffs Boy's Ranch is located about 1.5 miles northeast of the airfield.

3.5 HAZARDOUS MATERIALS AND WASTES

3.5.1 Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC Section 9601, *et. seq.*), as amended by the Superfund Amendments and Reauthorization Act (40 CFR 300-372), and the Toxic Substances Control Act (15 USC Section 2601, *et seq.*). The Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA) (42 USC 6901, *et seq.*), that was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. In general, both hazardous materials and wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare or to the environment when released or otherwise improperly managed.

Hazardous materials management at Air Force installations is established primarily by Air Force Instruction (AFI) 32-7080, Pollution Prevention Program. The AFI incorporates the requirements of all federal regulations, other AFIs, and Department of Defense Directives (DoDD), for reduction of hazardous material uses and purchases.

The purchase and use of hazardous materials at Columbus AFB must be authorized by the Base's Hazardous Materials Management Plan (HMMP). As part of this program, the Base operates a hazardous materials pharmacy. All hazardous materials enter the Base through the pharmacy. Base organizations request the hazardous material and quantity from the Base pharmacy and the material is delivered to or picked up by the requesting organization. No hazardous material may be used until it is entered into the Environmental Management Information System and approved for use. Under this system, the hazardous material pharmacy personnel maintain positive records for the location of the containers, from issue to return and ultimate disposal. The HMMP applies to all Base activities and operating locations such as that anticipated under the Proposed Action.

The regulations identified in the first paragraph of this section apply to the fixed base operator who provides aircraft maintenance services to civil aircraft at the GTRA.

3.5.2 Hazardous Wastes

Unless otherwise exempted by CERCLA regulations, RCRA Subtitle C (40 CFR Parts 260 through 270) regulations are administered by the USEPA and are applicable to the management of hazardous wastes. Hazardous waste must be handled, stored, transported, disposed, or recycled in accordance with these regulations. In accordance with AFI 32-4002 (*Hazardous Material Emergency Planning and Response Program*), Columbus AFB has a Hazardous Material Emergency Planning and Response Plan. The plan covers the requirement for hazardous materials emergency planning, training, response, and reporting and would be used to respond to spills on Base as well as at operating locations such as that anticipated under the Proposed Action.

The regulations identified in the previous paragraph apply to the fixed base operator who provides aircraft maintenance services to civil aircraft at the GTRA.

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

This chapter provides the scientific and analytic basis for the environmental consequences of the Proposed Action and No Action Alternative. The probable effects of the Proposed Action and No Action Alternative on environmental resources are described.

4.1 MISSION

Implementation of the Proposed Action would not impair the regularly scheduled air carrier operations or the general aviation activities that occur at GTRA.

4.2 AIRSPACE AND AIRFIELD OPERATIONS

Impacts associated with the Proposed Action are assessed by comparing projected military flight operations and proposed airspace utilization with baseline conditions, to include civil aviation activities. This environmental assessment includes analyzing the capability of the affected airspace elements to accommodate the projected level of military and civil flight activities, and determining whether such changes would have an adverse impact on overall use of the airspace. This includes consideration of such factors as the interaction of the proposed use of specific airspace with adjacent controlled, uncontrolled, or other military training airspace; possible impacts on other nonparticipating civil and military aircraft operations; and possible impacts on civil airports underlying or near the airspace projected for use in the Proposed Action.

4.2.1 Proposed Action

The existing standard routings established by Columbus RAPCON and used under the baseline condition for aircraft to proceed to and from GTRA would accommodate T-1 and T-37 aircraft. Likewise, the T-1 and T-37 on-board navigation equipment is compatible with the instrument approach procedures established for the GTRA. Table 4.1 lists the projected average daily airfield operations for T-1, T-37, and civil aircraft at GTRA. No T-1 or T-37 airfield operations would be conducted during the nighttime (10:00 p.m. and 7:00 a.m.). The overall number of nighttime operations would be about 4 percent.

Table 4.1 Proposed Action Airfield Operations, Golden Triangle Regional Airport

Aircraft	Arrival and Departure Operations	Closed Pattern Operations	Total Operations
T-1	64.80	32.40	97.20
T-37	16.00	48.00	64.00
Civil Aircraft	53.18	1.68	54.86
Total	133.98	82.08	216.06

Note: Airfield operations for civil aircraft are detailed in Table 3.1.

Other than the closed box pattern to outside downwind, the altitudes and dimensions of T-1 and T-37 traffic patterns would be very similar to those flown by the civil aircraft under the baseline condition. The T-1 and T-37 aircraft tracks would avoid overflying residential areas to the maximum extent possible. T-1 and T-37 aircraft operations at GTRA would follow five basic flight patterns (see Figure 4.1).

- Straight-out takeoff/departure;
- Straight-in arrival/landing/overhead pattern;
- Overhead pattern;
- Closed pattern to the inside downwind; and
- Closed box pattern to the outside downwind.

Class D airspace is normally that airspace from the surface to 2,500 feet above the airport elevation surrounding those airports with an operating tower. This airspace is controlled by air traffic control tower personnel and used for arrivals, departures, and closed patterns. Under the Proposed Action, an air traffic control tower would be established at the GTRA. The airspace within an approximate 5-mile radius of the GTRA and up to 2,500 feet above the airport elevation would be redesignated from Class E to Class D airspace when the air traffic control tower would be operating. The GTRA manager, with assistance from Columbus AFB staff, would coordinate the airspace designation with the FAA. The change to Class D airspace would require pilots proceeding to or departing from the GTRA, accomplishing closed patterns at the airport, and transiting the airspace, to contact the air traffic control tower for instructions and remain in contact while in the airspace. Establishment of Class D airspace and the air traffic control procedures that would be implemented to control aircraft in the airspace would improve air traffic control within the ROI airspace due to the increased level of control when compared to Class E. The airspace within the airport ROI and the anticipated air traffic control procedures could accommodate the T-1 and T-37 airfield operations without conflict from other aviation activity.

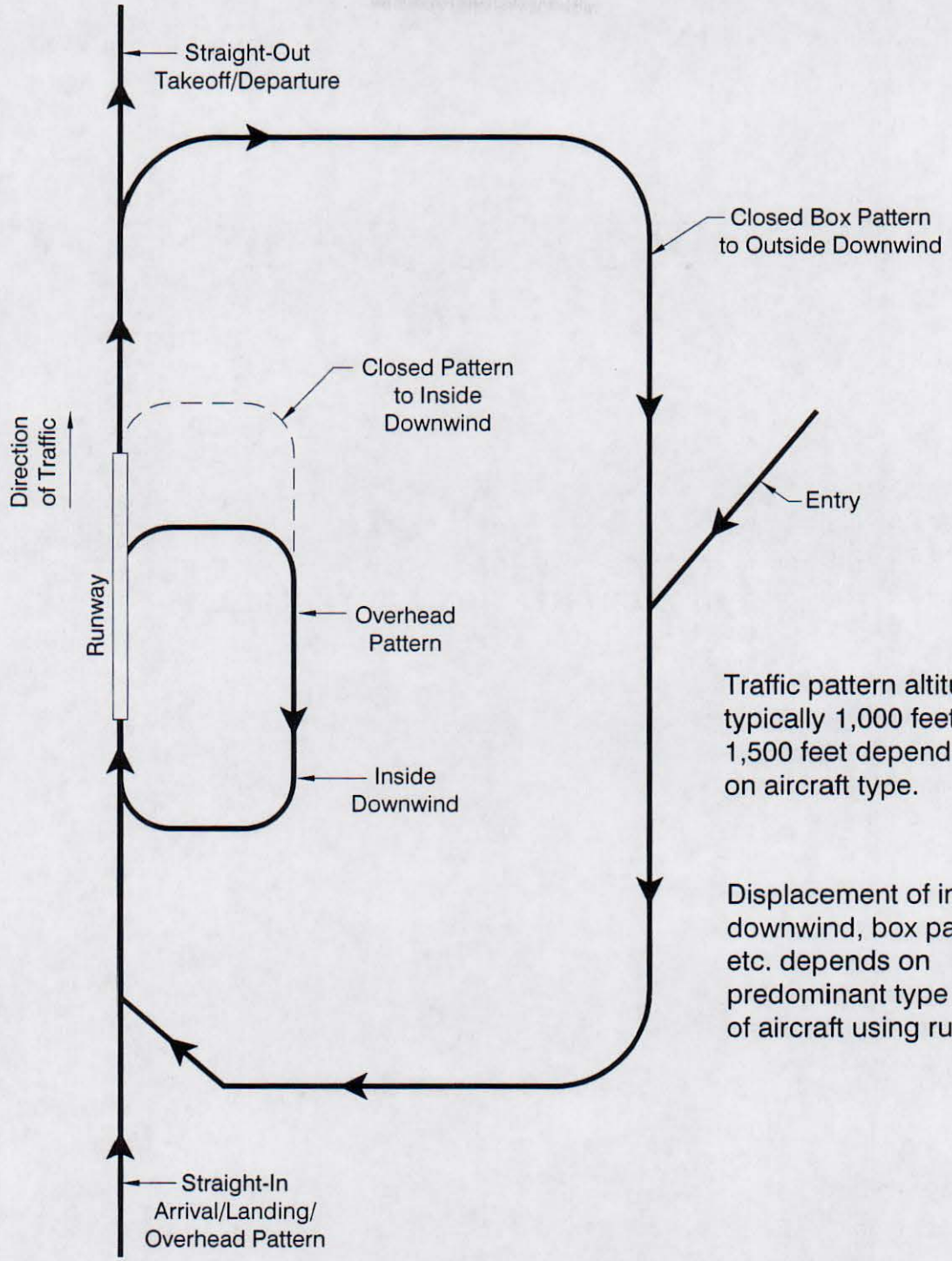
In summary, the airspace around the airport in which the traffic patterns would occur, as well as the air traffic control procedures that would be implemented, would support the anticipated T-1 and T-37 operations at GTRA.

4.2.2 No Action Alternative

No T-1 aircraft would be located at the GTRA and no T-1 or T-37 airfield operations would occur at the airport. All Air Force activity would occur at Columbus AFB. Airfield and airspace operations at the Airport would continue at the baseline levels.

4.2.3 Mitigation

No significant airspace and airfield operations impacts would occur. Mitigation would not be necessary.



Traffic pattern altitude is typically 1,000 feet or 1,500 feet depending on aircraft type.

Displacement of inside downwind, box pattern, etc. depends on predominant type of aircraft using runway.

Golden Triangle Regional Airport

Not to Scale

742927 GT-PAT.DWG

Typical T-1 and T-37 Aircraft Traffic Patterns

Figure 4.1

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4.3 NOISE

Several items were examined in evaluating potential noise impacts, including (1) the degree to which noise levels generated by airfield operation activities were different than the baseline noise levels, (2) the degree to which there may be annoyance and/or activity interference, and (3) the areas where noise-sensitive receptors might be exposed to noise above DNL 65 dBA.

4.3.1 Proposed Action

One of the principal environmental concerns resulting from airfield operations is noise. There are several characteristics of noise, including loudness (amplitude), sharpness or pitch (sound-wave frequency), and the length of time over which the noise is transmitted to a receptor (duration). The noise most often experienced as a result of airfield operations is generally moderately loud, high-pitched, and lasting for up to several minutes per event (*e.g.,* takeoffs, landings, and flyovers). The overall level of noise perceived by an individual depends upon the distance from the source. The noise figures in this EA illustrate the calculated noise contours for the airfield and the surrounding areas. These contours consider loudness, pitch, duration, flight track profiles, and distance for the various aircraft operations generated during a 24-hour day. These noises are calculated in terms of SEL dBA for single event analysis and DNL dBA for cumulative noise impact analysis.

The figures and tables on the following pages provide an overview of the noise environment based on the NOISEMAP program. Figure 4.2 depicts the flight tracks for the approximate 6-month period that T-1 and T-37 aircraft would operate at the GTRA. Figure 4.3 depicts the noise exposure area based on the T-1, T-37, and civil aircraft operations identified in Table 4.1. Figure 4.4 compares the Proposed Action noise contours with the baseline contours. As indicated in the table, 216.06 average daily airfield operations would occur at GTRA under the Proposed Action. Approximately 4 percent of the operations would occur during the nighttime (10:00 p.m. through 7:00 a.m.).

Table 4.2 provides SEL and L_{max} values for T-1 and T-37 aircraft at GTRA at a distance of 1,000 feet from the aircraft. Table 4.3 lists the SEL for the T-1 and T-37 aircraft at the specific analysis points. Table 4.4 compares the land area and population exposed to noise of DNL 65 dBA and greater for the Proposed Action with the baseline condition, as well as the population potentially highly annoyed for both conditions. Data from these three tables are used in the noise discussion in this section.

Table 4.2 Sound Exposure Level and Maximum Sound Level for T-1 and T-37 Aircraft at Golden Triangle Regional Airport Aircraft

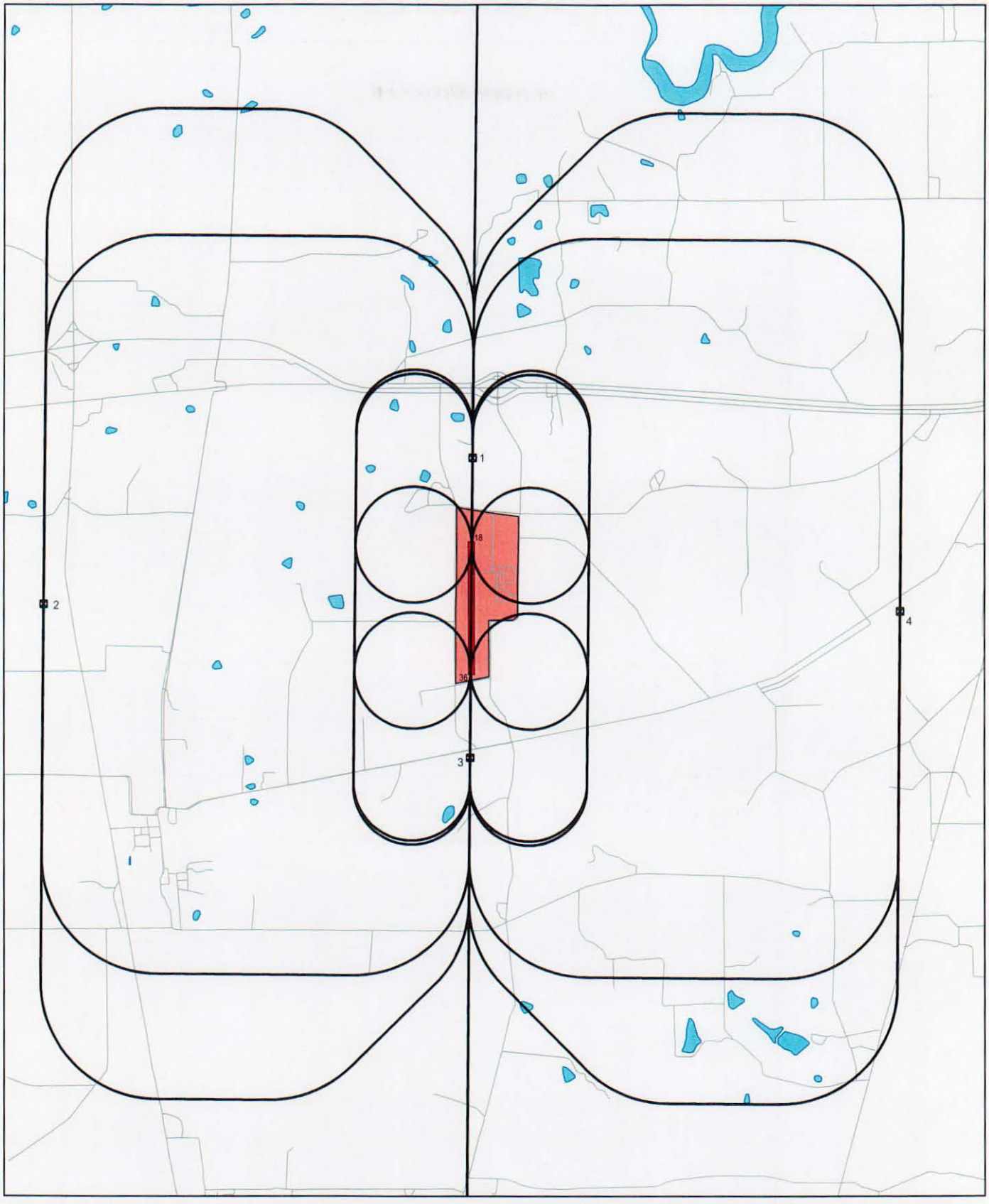
Aircraft Type	Sound Exposure (SEL) (dBA)	Maximum Sound Level (Lmax) (dBA)*
T-1	97	87
T-37	97	87

Note: At nominal takeoff thrust and airspeed and at a slant distance of 1,000 feet from the aircraft.

Table 4.3 SEL from Proposed T-1 and T-37 Airfield Operations at Specific Analysis Points, Golden Triangle Regional Airport

		SEL (dBA)/Aircraft	
Number	Description	T-1	T-37
1	Below North Extended Runway Centerline	103	102
2	Below West Closed Pattern	97	97
3	Below South Extended Runway Centerline	103	102
4	Below East Closed Pattern	97	97

Note: The specific analysis point number and description correspond to the point as reflected on the noise contour and aircraft ground track figures. Aircraft column reflects the SEL generated by T-1 and T-37 aircraft at the specific analysis point.



Golden Triangle Regional Airport

LEGEND

Flight Track

Analysis Point

Runway

Roadway

Golden Triangle Regional Airport

7,000 0 7,000

Feet

N

742927 GT-PAGT.DWG

Proposed Action Aircraft Ground Tracks Golden Triangle Regional Airport

Figure 4.2

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Golden Triangle Regional Airport

LEGEND

- DNL 65 dB Contour
- DNL 70 dB Contour
- DNL 75 dB Contour
- DNL 80 dB Contour
- Runway
- Roadway
- Analysis Point
- Golden Triangle Regional Airport

4,000 0 4,000
Feet

N

742927 GT-PANC.DWG

Proposed Action Noise Contours
Golden Triangle Regional Airport
Figure 4.3

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Golden Triangle Regional Airport

LEGEND

- 2002 Noise Contour
- 2002 Noise Contour
- Baseline Noise Countour
- Runway
- Roadway
- Golden Triangle Regional Airport

4,000 0 4,000 Feet

N

742927 GT-COMP.DWG

Comparison of Baseline and Proposed Action Noise Contours

Figure 4.4

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Table 4.4 Summary of Land Area and Population Exposed to, and Population Potentially Highly Annoyed by, DNL 65 dBA and Greater, Golden Triangle Regional Airport

	DNL Interval (dBA)				
Category	**65-70**	**70-75**	**75-80**	**80+**	**Total**
Land Area					
Baseline Acres	553	137	91	40	821
Proposed Action	1,200	402	116	80	1,798
Change	+647	+265	+25	+40	+977
Percent Change	+117%	+193%	+27%	+100%	+119%
Population					
Baseline Population	1	0	0	0	1
Proposed Action	8	1	0	0	9
Change	+7	+1	0	0	+8
Percent Change	+700%	+100%	0	0	+800%
Highly Annoyed					
Baseline Population	0	0	0	0	0
Proposed Action	2	0	0	0	2
Change	+2	0	0	0	+2
Percent Change	--	0	0	0	--

Note: The methodology explained in the Table 3.6 footnote was used to determine population and population highly annoyed for the Proposed Action.

4.3.1.1 Single Event Noise Analysis

Sound Exposure Level

Each aircraft overflight produces a single-event noise level, presented as SEL. Four representative specific points were selected to calculate the SEL from aircraft overflight: runway ends and below the closed pattern flight tracks. The noise contour and aircraft ground track figures show the locations of the specific analysis points.

The civil aircraft types and operations for the baseline would continue under the Proposed Action. Since SEL is related to single overflight, there would be no changes for the SEL for the baseline aircraft that continue to operate under the Proposed Action (see Tables 3.2 and 3.3). Tables 4.2 and 4.3 present the SEL for T-1 and T-37 operations under the Proposed Action. The SEL from T-1 and T-37 operations at the points north and south of the runway would be about 6 or 7 dBA less than that from Learjet operations under the baseline (see Tables 3.3 and 4.3).

Sleep Disturbance

Based on FICAN recommendations, outdoor SELs of 80 to 100 dBA (65 to 85 dBA indoors) could result in 4 to 10 percent awakenings, respectively, in the exposed population. Over the course of sleeping, different individuals might be awakened by different events, and some individuals might be awakened more than once. Individuals in residences below the arrival and departure aircraft tracks, and closer to the runway ends (*i.e.,* where aircraft are closer to the ground and at higher power settings), would be the most likely to be exposed to indoor SEL of 65 to 85 dBA during normal sleep periods (10:00 p.m. to 7:00 a.m.). As previously mentioned, a 10 dBA adjustment is added to each nighttime (10:00 p.m. to 7:00 a.m.) airfield operation to account for increased human sensitivity to nighttime noise events. There would be no change from the baseline condition sleep awakenings because the type and number of civil aircraft operations would be the same as the baseline, and T-1 and T-37 aircraft would not operate during normal sleep periods. However, those individuals who sleep between 7:00 a.m. and 10:00 p.m. likely would be affected just as those persons who sleep during normal sleep periods.

Effects of Noise on Structures

Studies have shown that damage to structures from sound pressure (*e.g.,* window breakage, wall cracks, foundation cracks) would not occur at 127 dBs and below. The maximum sound pressure produced by the T-1 and T-37 at 200 feet would be 103 and 102 dBA, respectively. Therefore, no damage to structures in the area surrounding the GTRA would be anticipated because the sound pressure produced by the aircraft would not exceed the level at which structural damage could occur.

4.3.1.2 Cumulative Noise Analysis

Figure 4.3 depicts the noise exposure area from the anticipated airfield operations at GTRA, and Figure 4.4 compares the Proposed Action and the baseline contours. The Proposed Action contours extend about three-quarters of a mile farther to the north and south along the runway centerline when compared to the baseline. Figure 4.3 shows that noise exposure continues to be influenced primarily by the straight-in arrivals and departures. When compared to the baseline, the influence of the additional closed pattern operations is indicated by the slight widening of the contours at distances about 1.5 miles off both ends of the runway. The overall effect of the Proposed Action at GTRA is that there would be an additional eight people exposed to noise of DNL 65 dBA and greater.

On the basis of a variety of studies, there is good probability of frequent speech disruption from aircraft overflight that produces outdoor DNL 75 dBA. This level produces ratings of "barely acceptable" for intelligibility of spoken communication. However, since the total duration is no more than a few seconds during each overflight, only a few syllables may be lost. As a result of potential Proposed Action aircraft overflight noise above this level, speakers may have to raise their voices during conversation, or move closer to listeners to compensate for intruding noise in face-to-face communication. As the intruding (masking) noise level rises, speakers may cease talking until conversation can be resumed at comfortable levels. If the speech source is a radio or television, the listener may increase the volume during noise

intrusion. In addition to losing information contained in masked speech, the listener may lose concentration because of the interruptions and become annoyed. Assuming the number of conversations is proportional to the increase in exposed population, it is anticipated there would be a corresponding increase in the potential for speech disruption for people in the noise exposure area.

An outdoor DNL 75 dBA is considered the threshold above which the risk of noise-induced hearing loss should be evaluated. An average of 1 dBA of hearing loss could be expected for people exposed to DNL equal to or greater than 75 dBA. For the most sensitive 10 percent of the exposed population, the maximum anticipated hearing loss would be 4 dBA. These hearing loss projections must be considered conservative, as calculations are based on an average daily outdoor exposure of 15 hours (7:00 a.m. to 10:00 p.m.) over a 40-year period. It is doubtful that any individual would spend this amount of time outdoors within the noise exposure area. Therefore, noise-induced hearing loss would not be anticipated from airfield operations associated with the Proposed Action.

Predictions of nonauditory health effects from aircraft noise cannot be made. Therefore, nonauditory health effects cannot be analyzed.

4.3.2 No Action Alternative

Under the No Action Alternative, no T-1 aircraft would be located at GTRA and no T-1 or T-37 airfield operations would occur at the airport. All Air Force activity would occur at Columbus AFB. Noise exposure at the airport would continue at the baseline levels.

4.3.3 Mitigation

No significant noise impacts would occur. Therefore, no mitigation would be necessary.

4.4 LAND USE

In considering the basis for evaluating impacts on land use, two items were examined, including: 1) the degree to which the airfield operations would impact existing sensitive land use; and 2) the degree to which airfield operations would interfere with the activities or functions of adjacent existing or proposed land uses.

4.4.1 Proposed Action

Noise modeling indicates the DNL 65 dBA and greater noise exposure area would extend about three-quarters of a mile further to the north and south of the runway ends. The areas that would be exposed to DNL 65 dBA and greater are used for agriculture. When comparing current land use with that described in the 1984 *Airport Noise Control and Land Use Compatibility Program*, Golden Triangle Regional Airport (GTRA 1984) report, land use in the area around the airport has been consistent and remained primarily rural farmland. Although the noise exposure area would increase from the Proposed Action, the additionally exposed areas would continue to be farmland and no other land use types would be exposed to aircraft noise.

4.4.2 No Action Alternative

Under the No-Action Alternative, the noise exposure from airfield operations would remain the same as the baseline condition, which do not affect land use.

4.4.3 Mitigation

No significant land use impacts would occur. Mitigation would not be necessary.

4.5 HAZARDOUS MATERIALS AND WASTES

Impacts to hazardous materials and waste management would be considered significant if the federal action resulted in noncompliance with applicable federal and Mississippi environmental quality regulations or caused waste generation that could not be accommodated by current Columbus AFB waste management capacities.

4.5.1 Hazardous Materials

4.5.1.1 Proposed Action

Hazardous materials for the T-1 aircraft maintenance activities at the GTRA would be managed under the Columbus AFB HMMP. Any hazardous materials used at the airport for T-1 aircraft maintenance would be the same as those used at Columbus AFB. Therefore, no new hazardous materials would be required. Hazardous materials used for Proposed Action would be purchased and stored in accordance with the Columbus AFB HMMP, which would not require revision to support the Proposed Action.

4.5.1.2 No Action Alternative

Under the No Action Alternative, no T-1 aircraft would be located at the GTRA and no T-1 or T-37 airfield operations would occur at the airport. All Air Force activity would occur at Columbus AFB. There would be no change in the civil aviation activities at the airport.

4.5.1.3 Mitigation

No significant impacts would be anticipated. Therefore, no mitigation would be required.

4.5.2 Hazardous Wastes

4.5.2.1 Proposed Action

The Proposed Action activities at the GTRA would generate hazardous waste. However, no new waste streams would be anticipated because T-1 maintenance activity would be the same as that at Columbus AFB. Any hazardous waste generated in association with aircraft maintenance would be handled in accordance with the Columbus AFB HMMP, which would not be affected by the Proposed Action.

4.5.2.2 No Action Alternative

Under the No Action Alternative, no T-1 aircraft would be located at GTRA and no T-1 or T-37 airfield operations would occur at the airport. All Air Force activity would occur at Columbus AFB. There would be no change in the civil aviation activities at the airport.

4.5.2.3 Mitigation

No significant impacts would be anticipated. Therefore, no mitigation would be required.

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CHAPTER 5
LIST OF PREPARERS

Name	Degree	Resource	Years of Experience
Miller, Dorothy	B.S., Mathematics	Aircraft Noise Modeling	23
Wallin, John	B.A., Biology M.A., Management	Airspace and Airfield Operations; Noise Analysis, Land Use, Hazardous Materials and Wastes	30
Wooten, R.C., Ph.D.	Ph.D., Ecology and Biology	Technical Management	34

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CHAPTER 6
PERSONS AND AGENCIES CONSULTED

The following persons and agencies consulted during preparation of this EA.

Brooks Air Force Base, Texas, Headquarters Air Force Center For Environmental Excellence

Kissler, Tracy (HQ AFCEE/ECE)

Columbus Air Force Base, Mississippi, 14th Flying Training Wing

Altizer, Eddie Maj (14 OSS/OSOS)
Lockhart, Frank (14 CES/CEV)

Smith, Mike (14 CES/CEV)

Golden Triangle Regional Airport

Miley, Teresa (Assistant Director)

Ratliff, Mickey (RAS, Inc.)

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CHAPTER 7
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APPENDIX A
Air Force Form 813

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REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol RCS: 02 - 34

INSTRUCTIONS: *Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).*

SECTION I - PROPONENT INFORMATION

1. TO *(Environmental Planning Function)*	2. FROM *(Proponent organization and functional address symbol)*	2a. TELEPHONE NO.
14 CES/CEV	14 OSS/OSOP, Major Altizer	x7560

3. TITLE OF PROPOSED ACTION
Request for environmental impact analysis for proposed 14 Flying Training Wing use of Golden Triangle (GTR) airspace.

4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*
See Attached - Same title as this block.

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES *(DOPAA) (Provide sufficient details for evaluation of the total action.)*
See Attached - Same title as this block.

6. PROPONENT APPROVAL *(Name and Grade)*	6a. SIGNATURE	6b. DATE
EDDIE R. ALTIZER, Major	Edd R Alt	15 Oct 02

SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. *(Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U= unknown effect)*

	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*				X
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*				X
9. WATER RESOURCES *(Quality, quantity, source, etc.)*		X		
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)*		X		
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*		X		
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*		X		
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*		X		
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*		X		
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*		X		
16. OTHER *(Potential impacts not addressed above.)*		X		

SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. [ ] PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # _____ ; OR
[X] PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS
Columbus Air Force Base is located in an area that is in attainment; therefore, a conformity determination is not required.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION *(Name and Grade)*	19a. SIGNATURE	19b. DATE
MICHAEL F. SMITH, REM Chief, Environmental Flight	Michael F Smith	6 Nov 02

AF FORM 813, SEP 99, CONTINUATION SHEET

4. PURPOSE AND NEED FOR THE PROPOSED ACTION (Identify decision to be made and need date)
Columbus AFB will repair runway 13R/31L. During the time that the runway is closed for repair the remaining two runways will be used for training along with one or more alternate sites. One site would be Golden Triangle Regional airport (GTR).

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPPA) (Provide sufficient details for evaluation of the total action).
The proposed action is to use GTR airport as an alternate site for operations during the time of limited operations at Columbus AFB. (IE. Dual/single runway operations due to runway repairs at Columbus) (See part B Below).

A. Routine-use action.
The 14th Flying Training Wing (14 FTW) at Columbus AFB (CBM) conducts Specialized Undergraduate Pilot Training producing more than 450 pilots per year. To do so, the 14th uses T-37, T-1 (BE-40), T-38 and soon T-6 aircraft. Pattern training (VFR) in these airplanes involves multiple visual approaches, instrument approaches, landings, and take-offs. At the present time, Columbus AFB aircraft utilize three runways at Columbus and one runway at an auxiliary field (Gunshy) in Shuqulak, Mississippi for most of the visual pattern training. Instrument approach training (IFR) is conducted at Columbus AFB, and air traffic tower-controlled airfields that are close by. The closest airfield for instrument training is Tupelo Regional, Tupelo, MS.

Pattaern operations are saturated at Columbus and Gunshy. Traffic counts exceed 289,000 in FY 2001 and are expected to remain as high in the future. These numbers would be even higher except there are times when the pattern is so full that aircraft are asked to leave the pattern or land to allow other aircraft to conduct safe levels of training. The aux field alone produced traffic counts more than 27,000 in FY 2001 and will continue to remain high as well. Gunshy is slightly more than 40 miles from Columbus AFB. This distance makes the aux field a good place to conduct visual pattern training. Due to fuel and aircraft sortie duration (ASD), time to train at Gunshy is somewhat limited. For example, time to cruise to Gunshy is approximately 15 minutes. In 15 minutes an aircraft can fly 2-3 patterns. GTR is 13 miles from CBM. This close proximity is beneficial for fuel consideration and less time is lost crusing enroute. This maximizes time in the pattern making GTR an excellent place for visual pattern training.

Estimated T-37/T-6 VFR Straight-in and/or VFR Overhead Visual Patterns at GTR are as low as 16 to a high of 54 per day. T-1 aircraft estimate 14 VFR patterns per day. These numbers alone produce an estimated increase of 600 to 1360 military/VFR events per month.

Instrument approach training requires published instrument procedures and an operational control tower. We currently have good resources for instrument training, but as previously mentioned, GTR is close, maximizing training for fuel. Maximum estimated instrument training at GTR will increase by approximately 16 T-37/T-6 approaches per day and 7 T-1 approaches per day. That totals 460 military/instrument arrivals per month. Estimated total VFR and IFR events will range from 1060-1200 per month.

Cruising altitudes to and from GTR are estimated to be at or above 3000 feet to 6000 feet MSL (2800-5800 feet AGL). Because GTR already has traffic patterns established and controlled by Columbus Radar Approach Control (RAPCON), flight routes to and from GTR will not affect Columbus AFB flight patterns.

B. Alternate-site action.
(1) During times of limited operations capability at Columbus AFB, aircraft can be deployed to other locations to conduct training. These locations include (Golden Triangle Regional Airport, Columbus, MS), (Tupelo Regional Airport, Tupelo, MS), (Tuscaloosa Municipal Airport, Tuscaloosa, AL), (Starkville Municipal Airport, Starkville, MS) and (Greenwood Municipal Airport, Greenwood, MS). GTR's close proximity makes it an excellent primary alternate-site to conduct SUPT operations. Logistical support is minutes away; aircraft can use the same training airspace, no additional costs for billeting aircrews, etc. Times of alternate use can only be estimated and possibly range from one day to one year. The actual time of use is determined by how long operations are limited or restricted at Columbus AFB.

(a) Deploying to GTR includes flying aircraft into GTR and leaving them at GTR until time of deployment is complete. When T-1 aircraft deploy to GTR, approximately 12-15 will operate up to 30 operations/day, without GTR tower. Numbers will increase up to 60/day with the GTR tower operating. During times of use without GTR tower operating, deployed T-1 operations will normally include one takeoff and one full stop landing from instrument approach or visual approach into GTR. When GTR tower is operating, deployed T-1 aircraft will perform one takeoff and up to 3 approaches. Each approach will transition to a touch and go, low approach or full stop landing.

(b) If T-37/T-6 aircraft deploy, up to 20 aircraft will operate at these locations. If tower operations are unavailable, expect up to 80 operations per day. Expect two periods of sorties. For each sortie, T-37/T-6 will perform one takeoff and one instrument/visual approach to a full stop. With tower operations, expect three periods of sorties and additional visual flight pattern training, up to three additional patterns. Total maximum operations in this case are 300 operations per day.

(2) If GTR is unavailable, the 14 FTW is requesting to conduct these alternate-site operations at the other locations mentioned in paragraph B (1). Plan for the same number of operations.

No-Action alternative:

1. No deployment, operate from two available runways at Columbus AFB.

Accept a several month decrease in wing sortie/training/polot production across all MDS. This is not an acceptable option. This option will create force degradation, as number of pilots to enter the major weapon systems will be less than planned for FY 2003.

2. If GTR does not get temporary tower, deploy 6-8 T-1 aircraft to towered airports.

Cross-country options (or deployment options) do not allow for student scheduling flexibility, providing attention to unsatisfactory student progress, or any of the supervisory oversight a polot training wing needs to have in their day-to-day operations. It also increases the aircraft maintenance workload, stretches the aircraft maintenance supervision, and interferes with lont-term phased maintenance. While this option is possible, it has many quality of training drawbacks and many maintenance ones as well.

3. If GTR odes not get temporary towere, use GTR, asking for a waiver for operations at an untowered aprport after assessing the risk.

The last option, operating without a tower, is possible. However, GTR is used by two commuter/regional airlines, charters and several private operators. On a VFR day, there are about 100 runway operations per day. 26 are commercial, several charter flights and the rest are private. There is a mix os single-engine and multi-engine aircraft with multi-engine jet aircraft (Regional Jets and Beechjets and some others). It would be much safer to have an operational tower mix our operations into this environment than to use the current self-reporting on UNICOM.

APPENDIX B
Interagency and Intergovernmental Correspondence for Environmental Planning

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 14TH FLYING TRAINING WING
COLUMBUS AIR FORCE BASE MISSISSIPPI

17 DEC 2002

Mr. Michael F. Smith, REM
Chief, Environmental Flight
555 Simler Boulevard, Suite 108
Columbus AFB MS 39710-6010

Ms. Kathy Lunceford
Vicksburg Ecological Service
Fish and Wildlife Service
6578 Dogwood View Parkway, Suite A
Jackson MS 39213

Dear Ms. Lunceford

The 14th Flying Training Wing, Columbus Air Force Base (AFB), Mississippi, plans to prepare an Environmental Assessment to assess the potential environmental impacts of the proposed flying training operations at the Golden Triangle Regional Airport, Columbus, Mississippi. The attached Description of the Proposed Action and Alternatives (DOPAA) provides details of the action, explains the purpose and need for the action, and discusses alternatives to the action.

Under the Proposed Action, up to 18 T-1 aircraft would be located at the Golden Triangle Regional Airport on a Monday through Friday basis and flying training would be conducted from and at the airport for approximately a six-month period. This training would begin approximately February 2003, while one runway at the base would be closed for repair. Additionally, T-37 aircraft would accomplish operations at the airport; however, no T-37 aircraft would be located there during the same six-month period. Under the No Action Alternative, no Columbus AFB aircraft would be located at the Golden Triangle Regional Airport and no operations by base aircraft would occur at the airport.

According to the National Environmental Policy Act, the Air Force must assess the potential environmental impacts of the proposed and alternative actions. In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, the Air Force is requesting input from other federal, state, and local agencies on the proposal. Please identify any resources within your agency's purview that may be potentially impacted. Maps and graphics are included within the DOPAA to assist your office in reviewing the proposal.

Please provide any comments or information by 3 January 2003. Your assistance in providing information is greatly appreciated. If you have any questions, please call Mr. Frank Lockhart, 14 CES/CEV, 662-434-3130.

Sincerely,

Michael F. Smith

MICHAEL F. SMITH, REM

Attachment:
Description of the Proposed Action and Alternatives

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213
December 20, 2002

Mr. Michael F. Smith
Chief, Environmental Flight
Department of the Air Force
555 Smiler Boulevard, Suite 108
Columbus AFB, Mississippi 39710-6010

Dear Mr. Smith:

The U.S. Fish and Wildlife Service has reviewed the information in your letter dated December 17, 2002, regarding plans to prepare an Environmental Assessment for proposed flying training operations at the Golden Triangle Regional Airport (GTRA), Lowndes County, Mississippi. Our comments are submitted in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), and the Endangered Species Act (ESA)(87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The proposed work activities would include the transport, and daily takeoffs and landings of T-1 and T-37 aircraft at the GTRA. This activity would occur while repairs are completed on a runway at the Columbus Air Force Base.

There are no federally listed threatened or endangered species in or around the GTRA. Therefore, no further consultation under Section 7 of the ESA will be necessary.

If you have any questions, please feel free to contact this office, telephone: (601) 321-1132.

Sincerely,

Kathy W Lunceford

Kathy W Lunceford
Mississippi Environmental Coordinator

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 14TH FLYING TRAINING WING
COLUMBUS AIR FORCE BASE MISSISSIPPI

17 DEC 2002

Mr. Michael F. Smith, REM
Chief, Environmental Flight
555 Simler Boulevard, Suite 108
Columbus AFB MS 39710-6010

Ms. Mildred Tharpe
State Clearinghouse for Federal Programs
1301 Woolfolk Bldg, Suite E
501 North West St
Jackson MS 39213

Dear Ms. Tharpe

The 14th Flying Training Wing, Columbus Air Force Base (AFB), Mississippi, plans to prepare an Environmental Assessment to assess the potential environmental impacts of the proposed flying training operations at the Golden Triangle Regional Airport, Columbus, Mississippi. The attached Description of the Proposed Action and Alternatives (DOPAA) provides details of the action, explains the purpose and need for the action, and discusses alternatives to the action.

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Please provide any comments or information by 3 January 2003. Your assistance in providing information is greatly appreciated. If you have any questions, please call Mr. Frank Lockhart, 14 CES/CEV, 662-434-3130.

Sincerely,

Michael F. Smith

MICHAEL F. SMITH, REM

Attachment:
Description of the Proposed Action and Alternatives

STATE OF MISSISSIPPI
Department of Finance and Administration
DEC 31, 2002

STATE CLEARINGHOUSE FOR FEDERAL PROGRAMS
WEEKLY LOG

Distribution: Planning and Development District Clearinghouses
Metropolitan Area Clearinghouse
State Agencies
Other Interested Parties

Purpose: This log is prepared each week for all pre-applications, applications, notifications of intent, environmental clearances, etc. for Executive Order 12372 and Coastal Program reviews submitted to the State Clearinghouse. After preparation, the weekly log is distributed to (1) notify agencies and other interested parties of the proposed activity and (2) afford interested agencies the opportunity to review and comment on the proposed activity.

Please send comments to arrive at this office no later than JAN 14,2003. If exceptional circumstances prevent your meeting this schedule, please advise this office in writing as to when comments will be forwarded. In those instances in which comments are not returned, federal agencies require the assumption that your comments would be favorable.

Some activities in the coastal area (Hancock, Harrison, and Jackson Counties) are subject to review under both the Executive Order 12372 and the Mississippi Coastal Program, administered by the MS Dept. of Marine Resources. The Identifier Number of these activities is followed by the letter R.

Note: For these coastal activities, please send copies of the comments to the MS Dept. of Marine Resources, 1141 Bayview Ave., Suite 101, Biloxi, Ms 39530; Attention: Coastal Ecology

For additional information contact: MILDRED THARPE Clearinghouse Officer, 1301 Woolfolk Bldg., Suite E
501 North West St. Jackson, MS 39201 (601)359-6762

EO 12372 STATE OF MISSISSIPPI PAGE 37
WEEKLY LOG STATE CLEARINGHOUSE FOR FEDERAL PROGRAMS DATE 12/19/0
PGM=N110 12/31/0

MS APPLICANT NO.: MS021219-001
IMPACT AREA(S): LOWNDES

APPLICANT:
COLUMBUS AIR FORCE BASE

CONTACT: FRANK LOCKHART
PHONE: (662) 434-3130

555 SIMLER BLVD., SUITE 108
COLUMBUS AFB MS 39710-6010

FEDERAL AGENCY: DEPARTMENT OF AIR FORCE

FUNDING: FEDERAL APPLICANT STATE
LOCAL OTHER PROGRAM
TOTAL

DESCRIPTION: THE 14TH FLYING TRAINING WING PLANS TO PREPARE AN ENVIRONMENTNAL ASSESSMENT TO ASSESS THE POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED FLYING TRAINING OPERATIONS AT THE GOLDEN TRIANGLE REGIONAL AIRPORT, COLUMBUS, MISSISSIPPI. PROVIDE COMMENTS BY 3 JANUARY 2003.

CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER

MS APPLICANT NO.: MS021219-002R
IMPACT AREA(S):

APPLICANT:
U.S. DEPARTMENT OF INTERIOR
MINERALS MANAGEMENT SERVICE
1201 ELMWOOD PARK BLVD.
NEW ORLEANS LA 70123-2394

CONTACT: ELMO COOPER
PHONE: (000) 000-0000

FEDERAL AGENCY: DEPARTMENT OF INTERIOR

FUNDING: FEDERAL APPLICANT STATE
LOCAL OTHER PROGRAM
TOTAL

DESCRIPTION: TYPE - INITIAL EXPLORATION PLAN
LEASE - OCS-G24210 BLOCK - 26 ATWATER VALLEY AREA
OCS-G24216 BLOCK - 70 ATWATER VALLEY AREA
OPERATOR - DOMINION EXPLORATION & PRODUCTION, INC.
DESCRIPTION - WELLS A,B,C,D - CONTROL # - N-07630

CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER

MS APPLICANT NO.: MS021220-001
IMPACT AREA(S):

APPLICANT:
FAMILY HEALTH CENTER, INC.

CONTACT: GERALDINE BATES
PHONE: (601) 425-3033

P.O. BOX 4361
LAUREL MS 39440

FEDERAL AGENCY: HHS, BPHC

FUNDING: FEDERAL $ 1,220,869 APPLICANT STATE $ 321,787
LOCAL OTHER PROGRAM$ 4,076,610
TOTAL $ 5,619,266

DESCRIPTION: PROVIDING PRIMARY HEALTH CARE SERVICES TO RESIDENTS OF A MULTI-COUNTY RURAL AREA IN MISSISSIPPI.

CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER
