DRAFT

Environmental Assessment for the Beddown of C-17 or KC-135 at the 123d Airlift Wing Standiford Field Louisville, KY

> Contract Number W9133L-14-D-0009 Task Order Number 0004 PWS 0134

National Guard Bureau

July 28, 2016





Guarding America - Defending Freedom

Page intentionally left blank

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
ACAM	Air Conformity Applicability Model
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFOSH	Air Force Occupational and Environmental Safety, Fire Protection and Health
AFPD	Air Force Policy Directive
ANG	Air National Guard
AOCRs	Air Quality Control Regions
AT/FP	Antiterrorism/Force Protection
AW	Airlift Wing
BASH	Bird/Wildlife Aircraft Strike Hazard
BMP	Best Management Practices
CAA	Clean Air Act
CEO	Council on Environmental Quality
CFR	Code of Federal Regulations
СО	Carbon Monoxide
CO ₂	Carbon Dioxide
CWA	Clean Water Act
dB	Decibels
dBA	A-weighted Decibels
DNL	Day-Night Sound Level
DOD	Department of Defense
DOPAA	Description of Proposed Action and Alternatives
DZs	Drop Zones
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Restoration Program
ESQD	Explosive Safety Quantity-Distance
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GCR	General Conformity Rule
GHGs	Greenhouse Gases
IAP	International Airport
IDP	Installation Development Plan
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
INM	Integrated Noise Model
KAR	Kentucky Administrative Record
KDEP	Kentucky Department for Environmental Protection
Leq	Equivalent Sound Level
LLR	Low-Level Training Routes
LZs	Landing Zones
MSA	Munitions Storage Area

National Ambient Air Quality Standards
National Environmental Policy Act
National Guard Bureau
National Historic Preservation Act
Nitrogen Dioxide
National Register of Historic Places
Ozone
Celsius
Fahrenheit
Public Law
particulate matter 10 microns
particulate matter 2.5 microns
Petroleum, Oil, and Lubricant
Resource Conservation and Recovery Act
Runway Protection Zones
Sulfur Dioxide
United States
Unified Facilities Criteria
United States Army Corp of Engineers
United States Air Force
United States Code
United States Department of Transportation
United States Environmental Protection Agency
United States Fish and wildlife Service
Volatile Organic Compound

DISCLOSURE STATEMENT

DATA REQUIRED BY THE PRIVACY ACT OF 1974

(5 U.S.C. 552A)

1. Authority

23 U.S.C. paragraphs 557a, 557b, 597, 709a

2. Principal Purpose

Your name, address and comments, if provided during the Environmental Impact Analysis Process are:

- Used to compile mailing lists for sending information concerning the Environmental Assessment to those individuals and groups who might be interested.
- Forwarded to federal, state and local agencies and elected officials.
- Used to compile mailing lists for other projects in which the person supplying the information might have an interest.
- Compiled in a Record of Public Comments and made available to the public.
- Published in project reports and made available to interested individuals and groups.

3. Effects of Individual Not Providing Information

Failure to provide the information requested would prevent delivery of documents and notification of further developments. However, documents would be available in local public areas, such as libraries, and their locations published in local newspapers.

Page intentionally left blank

DRAFT FINDING OF NO SIGNIFICANT IMPACT

Beddown of C-17 or KC-135 at the 123d Airlift Wing Standiford Field Louisville, KY

1.0 INTRODUCTION

The Air National Guard (ANG) has prepared an Environmental Assessment (EA) to consider the potential effects to the human and natural environment associated with beddown (or aircraft conversion) of the C-17 or KC-135 and the associated construction projects at the 123d Airlift Wing (123 AW), Kentucky ANG, Standiford Field, Louisville, Kentucky . In accordance with Air Force Instruction 10-503, Strategic Basing regarding assignment of backup aircraft inventory, the ANG proposes to replace C-130 aircraft at the 123rd AW with either C-17 or KC-135 aircraft, and to provide adequate space and facilities to support this aircraft conversion. The surplus of airlift capacity associated with the existing fleet of C-17 and KC-135 transport aircraft is available to replace the limited capacity associated with the aging fleet of C-130 aircraft. Conversion from the C-130 aircraft to the C-17s and KC-135s would help meet the Air Force's Strategic Basing Initiative. The proposed conversion would include facilities construction and personnel changes needed to maintain and operate the aircraft conversion and associated mission support projects.

The determination of environmental resource areas to be analyzed versus those not carried forward for detailed analysis was part of the EA scoping process as described in 40 Code of Federal Regulations (CFR) 1501.7(a) (3), which states that issues addressed in prior environmental reviews, or that are not significant, may be eliminated from discussion in the EA. The Proposed Action and alternatives including the No Action Alternative, would have negligible direct, indirect, or cumulative effects on several resource areas. These include aesthetics and visual resources, airspace, socioeconomics, transportation, land use, geological resources, biological resources, and cultural resources. Therefore, these resource areas were not carried forward for detailed analysis in the EA.

A preliminary analysis on environmental effects determined that the Proposed Action and alternatives may have greater than negligible effects on several resource areas, including air quality, noise, hazardous materials and wastes, health and safety, and water resources. Therefore, these resource areas were carried forward for detailed analysis in the EA.

2.0 ALTERNATIVE 1: C-17 BEDDOWN (PROPOSED ACTION)

Alternative 1 (Proposed Action) is the conversion of C-130 aircraft to C-17 aircraft to better support large-scale cargo movement and handling, and aircrew training requirements. Alternative 1, the beddown of the C-17 aircraft, is the preferred alternative. The Proposed Action includes several construction projects that would replace outdated, undersized, or inadequate facilities in a

way that improves safety and morale of personnel, and enhances the security of ANG assets. The proposed infrastructure would incorporate minimum security standards, including antiterrorism/force protection requirements specified by Unified Facilities Criteria 4-010-01 (DOD 2012).

2.1 Aircraft Conversion

Under the Proposed Action, the 123 AW would convert to a squadron of C-17 aircraft. This would include the addition of eight C-17 aircraft within approximately 5-7 years, with the simultaneous removal of eight currently assigned C-130 aircraft. The C-17 is a long-range, air-refuelable, turbofan-powered, high-wing, heavy military cargo aircraft built around a large, unobstructed cargo compartment. The C-17 combines the attributes of a strategic airlifter (e.g., long range, aerial refueling, and large payload) with those of a tactical airlifter (e.g., agility in the air, survivability, ability to operate on short runways and to airdrop cargo and personnel).

There would be minor changes to airspace use and aircraft operations under the Proposed Action. Due to the nature of C-17 training requirements under the Proposed Action, the number of air operations carried out by the 123 AW at Standiford Field would be reduced from 928 to 408 per year, and missions would be approximately six hours long, as opposed to the current two hours with the C-130 aircraft. There would be small changes in the use of airfields, drop zones, and training routes within 400 miles (644 kilometers) of Standiford Field. The proposed aircraft conversion would result in a net gain of 391 part-time personnel (traditional guardsmen) and 48 full-time personnel (military [active guard reserve] and civilian) for operations and maintenance at the 123 AW. It is likely that individuals currently at the 123d AW would fill some of the proposed positions, making the changes in personnel lower than projected.

2.2 Construction Projects

Concurrent with the aircraft conversion, the 123 AW would implement construction projects described in Table ES-1. These proposed activities would support the aircraft conversation, consolidate similar land uses and functions, and streamline operations, while helping the 123d AW conduct their mission effectively and efficiently. Sustainable strategies and energy reduction practices for military construction projects would be incorporated into the Proposed Action as part of Air Force sustainability policy and Leadership in Energy and Environmental Design requirements. Guidance for these strategies is presented in Engineering Technical Letter 08-13: *Incorporating Sustainable Design and Development and Facility Energy Attributes in the Air Force Construction Program.* The period of construction would be no greater than five years.

Project #	Project Name	Project Description	
1	Petroleum, Oil, and Lubricant	Install required vertical tanks to have sufficient fuel	
	(POL) Farm	storage capacity.	

Table ES-1. Proposed Construction Projects

Project #	Project Name	Project Description
2	Fuel Hydrant System	Install a fuel hydrant system to support refueling for the aircraft conversion.
3	Maintenance Hangar	Construct a new maintenance hangar to accommodate the conversion aircraft
4	Fuel Cell/Corrosion Control Hangar	Construct an adequate facility for corrosion control and maintenance functions to support the aircraft conversion
5	Simulator/AGE	Renovate Building 500 Hangar to support a new flight simulator for the aircrew training program required for the aircraft conversion.
6	Covered Storage for Fire Apparatus	Construct an additional bay to the fire control building.
7	Vehicle Maintenance Modification	Install a bay door modification so the 60 K-Loader can be serviced.

3.0 ALTERNATIVES TO THE PROPOSED ACTION

The National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and 32 CFR Part 651 require that a federal agency consider reasonable alternatives to a Proposed Action. During the screening process, alternatives to aircraft conversion and construction projects were considered "reasonable" only if they would enable the 123 AW to safely maintain its federal and state mission as well as sustain quality military training.

3.1 ALTERNATIVE 2: KC-135 BEDDOWN

Under Alternative 2, the 123 AW would convert to a squadron of KC-135 aircraft. This would include the conversion of its eight currently-assigned C-130 aircraft to eight KC-135 aircraft within approximately 5-7 years. There would be minor changes to airspace use and aircraft operations under Alternative 2. Due to the nature of KC-135 training requirements, the number of air operations carried out by the 123 AW at Standiford Field would be reduced from 928 to 360 per year, and missions would be approximately eight hours long, as opposed to the current two hours with the C-130 aircraft. There would be small changes in the use of airfields, drop zones, and training routes within 400 miles of Standiford Field.

Under Alternative 2, there would be a loss of approximately 71 full-time personnel and approximately the same number of part-time personnel for operations and maintenance at the 123 AW. It is likely that individuals currently at the 123 AW would fill some of the full-time positions, making changes in full-time personnel lower than projected. Under Alternative 2, the proposed construction projects would be the same as those listed for the Proposed Action. The proposed projects would provide adequate space and facilities for mission support for conversion to a squadron of KC-135 aircraft. The siting locations would be as presented for Alternative 1.

3.3 NO ACTION ALTERNATIVE

The CEQ regulation 40 CFR §1502.14(d) specifically requires analysis of the "No Action" alternative in all NEPA documents. Under the No Action Alternative, the 123 AW would not implement the actions described above. The 123 AW would continue to conduct their current mission using the existing primary assigned aircraft C-130 and existing facilities. Although the No Action alternative does not meet any of the selection criteria or fulfill the purpose and need of the action, it has to be carried forward for detailed analysis in this EA as required under NEPA.

4.0 ENVIRONMENTAL EFFECTS

Air Quality

The Proposed Action and Alternative 2 would have short- and long-term less than significant adverse effects on air quality. Short-term increases in emissions would be due to generating airborne dust and other pollutants during construction. Long-term increases in emissions would be due to the increase in mobile source emissions such as commuter vehicles and aircraft. Increases in emissions would be below the general conformity rule *de minimis* thresholds, would not exceed the greenhouse gases threshold in the draft CEQ guidance, and would not contribute to a violation of any federal, state, or local air regulations. No past, present, or reasonably foreseeable projects have been identified that when combined with the Proposed Action or Alternative 2, would have significant cumulative effects to air quality. The No Action alternative would have no effects on air quality.

Noise

The Proposed Action and Alternative 2 would have short-term less than significant adverse effects and long-term beneficial effects on the noise environment. Short-term effects would be due to use of heavy equipment during construction. Long-term beneficial effects would be due to the incremental decrease in aircraft operations at Standiford Field, and minor changes at some landing zones and drop zones within 400 miles of the airport. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use outside the property boundary of the airport. No past, present, or reasonably foreseeable projects have been identified that when combined with the Proposed Action or Alternative 2, would have significant cumulative effects to noise. The No Action alternative would have no effects on noise.

Hazardous Materials and Wastes

The Proposed Action and Alternative 2 would have short- and long-term less than significant adverse effects resulting from hazardous materials and wastes. Short-term effects would be due to use and generation of hazardous materials and wastes during construction. Long-term effects would be due to use and generation of hazardous materials and wastes during mission support and

aircraft operations. Execution of management plans at the 123 AW would ensure safe handling of hazardous materials and wastes. The Proposed Action would not (1) substantially increase the quantity or toxicity of hazardous substances, (2) substantially increase risk to human health or the environment, or (3) generate solid waste in amounts that would appreciably decrease the capacity or life span at receiving landfills. No past, present, or reasonably foreseeable projects have been identified that when combined with the Proposed Action or Alternative 2, would have significant cumulative effects. The No Action alternative would have no effects with regard to hazardous materials and wastes.

Health and Safety

The Proposed Action and Alternative 2 would have short- and long-term less than significant adverse effects to health and safety. Short-term effects would be due to activities and use of equipment during construction. Long-term effects would be due to mission support and aircraft operations. Implementation of safety guidance and practices at the 123 AW would ensure health and safety during construction and operations. Effects would not (1) substantially increase risks associated with ground safety during construction, or operations and maintenance activities, (2) substantially increase risks associated with aircraft mishap or flight safety, or (3) result in incompatible land use with regard to safety criteria. No past, present, or reasonably foreseeable projects have been identified that when combined with the Proposed Action or Alternative 2, would have significant cumulative effects to health and safety. The No Action alternative would have no effects on health and safety.

Water Resources

The Proposed Action and Alternative 2 would have short-term less than significant adverse effects to water resources. Short-term effects would be due to site-specific temporary effects on water resources during construction. Long-term effects would be to water resources would be negligible. Effects to water resources would not reduce water availability or supply, exceed safe annual yield of water supplies, adversely affect water quality, threaten or damage hydrology, or violate water resources laws or regulations. No past, present, or reasonably foreseeable projects have been identified that when combined with the Proposed Action or Alternative 2, would have significant cumulative effects to water resources. The No Action alternative would have no effects on water resources.

5.0 PUBLIC NOTICE

NEPA, 40 CFR §§1500-1508, and 32 CFR Part 989 require public review of the EA before approval of the Finding of No Significant Impact and implementation of the Proposed Action. A Notice of Availability for public review of the Draft EA was published in the *Courier-Journal* on 5 August 2016 and 19 August 2016. The Draft EA was made available for public review at the Louisville Free Public Library – Main Library, 301 York Street Louisville, Kentucky 40203. Through the Interagency and Intergovernmental Coordination for Environmental Planning

process, the ANG notified relevant federal, state, and local agencies and allowed them 30 days to make known their environmental concerns specific to the Proposed Action. Copies of all correspondence, public comments, and agency letters received are provided in Appendix A of the EA.

6.0 FINDING OF NO SIGNIFICANT IMPACT

After careful review of the potential effects of this Proposed Action, I have concluded that the Proposed Action or alternatives would not have a significant impact on the quality of the human or natural environment or generate significant controversy. Accordingly, the requirements of the NEPA, CEQ regulations, and 32 CFR Part 989, et seq. have been fulfilled, and an Environmental Impact Statement is not necessary and will not be prepared.

BENJAMIN W. LAWLESS, P.E., GS-15 Chief, Asset Management Division

Date

TABLE OF CONTENTS

DRAFT FINDING OF NO SIGNIFICANT IMPACT	1
TABLE OF CONTENTS	i
1.0 PURPOSE OF AND NEED FOR ACTION	
1.1 LOCATION	
1.2 BACKGROUND	
1.3 Purpose and Need	
1.4 SUMMARY OF ENVIRONMENTAL STUDY REQUIREMENTS	
1.4.1 National Environmental Policy Act	
1.4.2 Interagency and Intergovernmental Coordination for Environmental Planning	
and Public Involvement	
1.4.3 Water Resources	
1.4.4 Cultural Resources	
1.4.5 Air Resources	
1.4.6 Hazardous Materials and Waste	
1.4.7 Endangered Species Act	
1.4.8 Other Executive Orders	
1.5 RESOURCES NOT CARRIED FORWARD FOR DETAILED ANALYSIS	
1.6 RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS	
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	
2.1 SELECTION CRITERIA	
2.2 ALTERNATIVE 1: C-17 BEDDOWN (PROPOSED ACTION)	2 1 2-2
2.2 Aircraft Conversion	2-2
2.2.1 Aircraft Operations	2-2
2.2.2 Interaction operations 2.2.3 Personnel Changes	2-3
2.2.5 Tensormer changes	2-5
2.3 ALTERNATIVE 2: KC-135 BEDDOWN	2-7
2.3.1 Aircraft Conversion	2-7
232 Aircraft Operations	2-9
2.3.2 Parsonnel Changes	2-10
234 Construction Projects	2-10
2.4 No ACTION AI TERNATIVE	2-10
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES.	
3.1 AIR OUALITY	
3.1.1 Definition of Resource	
3.1.2 Affected Environment	
3.1.2.1 Local Air Quality	
3.1.2.2 Climate and Greenhouse Gases (GHG)	
3.1.3 Environmental Consequences	
3.1.3.1 Significance Criteria	
3.1.3.2 Proposed Action	
Regulatory Review	
Greenhouse Gases and Climate Change	
3.1.3.5 Alternative 2	

3.2 Noise	
3.2.1 Definition of Resource	
3.2.2 Affected Environment	
Standiford Field-Louisville International Airport	
Drop Zones 3-8	
3.2.2.1 Regulatory Overview	
3.2.3 Environmental Consequences	
3.2.3.1 Significance Criteria	
3.2.3.2 Proposed Action	
Construction Effects	
Standiford Field-Louisville International Airport	
Landing Zones and Assault Landing Strips	
Drop Zones 3-13	
3.2.3.3 Alternative 2	
Standiford Field-Louisville International Airport	
Landing Zones 3-14	
Drop Zones 3-14	
3.2.3.4 No Action Alternative	
3.3 HAZARDOUS MATERIALS AND WASTES	
3.3.1 Definition of Resource	
3.3.2 Affected Environment	
3.3.3 Environmental Consequences	
3.3.3.1 Significance Criteria	
3.3.3.2 Proposed Action	
Construction Effects	
Operational Effects	
3.3.3.3 Alternative 2	
3.3.3.4 No Action Alternative	
3.4 HEALTH AND SAFETY	
3.4.1 Definition of Resource	
3.4.2 Affected Environment	
3.4.3 Environmental Consequences	
3.4.3.1 Significance Criteria	
3.4.3.2 Proposed Action	
Construction Effects	
Operational Effects	
3.4.3.3 Alternative 2	
3.4.3.4 No Action Alternative	
3.5 WATER RESOURCES	
3.5.1 Definition of Resource	
3.5.2 Affected Environment	
3.5.3 Environmental Consequences	
3.5.3.1 Significance Criteria	
3.5.3.2 Proposed Action	
Construction Effects	
Operational Effects	
3.5.3.3 Alternative 2	
3.5.3.4 No Action Alternative	
3.6 COMPARISON OF ENVIRONMENTAL EFFECTS	
4.0 CUMULATIVE EFFECTS	
4.1 PROJECTS IN THE VICINITY OF THE 123 AW	

4.2	CUMULATIVE EFFECTS ANALYSIS	4-2
5.0	MANAGEMENT ACTIONS / SPECIAL PROCEDURES	5-1
6.0	REFERENCES	6-1
7.0	LIST OF PREPARERS	7-1

APPENDICES

Α	IICEP Correspondence
---	-----------------------------

- General Conformity Applicability Analysis Land-Use Compatibility Guidelines В
- С

LIST OF TABLES

TABLE ES-1. PROPOSED CONSTRUCTION PROJECTS	2
TABLE 2-1. AIRCRAFT OPERATIONS - EXISTING AND PROPOSED ACTION	
TABLE 2-2. AUTHORIZED PERSONNEL FOR THE 123 AW	2-3
TABLE 2-3. PROPOSED CONSTRUCTION PROJECTS	
TABLE 2-4. AIRCRAFT OPERATIONS - EXISTING AND ALTERNATIVE 2	
TABLE 3-1. AIR QUALITY STANDARDS AND MONITORED DATA	3-2
TABLE 3-2. ANNUAL AIR EMISSIONS COMPARED TO DE MINIMIS THRESHOLDS - PROPOSED ACTION	3-4
TABLE 3-3. ANNUAL AIR EMISSIONS COMPARED TO DE MINIMIS THRESHOLDS - ALTERNATIVE 2	3-5
TABLE 3-4. COMMON SOUNDS AND THEIR LEVELS	
TABLE 3-5. ESTIMATED BACKGROUND NOISE LEVELS	3-7
TABLE 3-6. RECOMMENDED NOISE LIMITS FOR LAND USE PLANNING	3-7
TABLE 3-7. EXISTING OVERALL AIR OPERATIONS AT SDF	3-8
TABLE 3-8. NOISE LEVELS ASSOCIATED WITH OUTDOOR CONSTRUCTION	3-11
TABLE 3-9. AIRCRAFT OPERATIONS AT FAA SDF - PROPOSED ACTION	3-11
TABLE 3-10. AIRCRAFT OPERATIONS AT SDF - ALTERNATIVE 2	3-13
TABLE 3-11. COMPARISON OF ENVIRONMENTAL EFFECTS	3-25

LIST OF FIGURES

FIGURE 1-1. REGIONAL LOCATION OF 123 AW	
FIGURE 1-2. MAP OF 123 AW	
FIGURE 2-1. CURRENT 123 AW AIRCRAFT OPERATIONS AREAS	
FIGURE 2-2. PROPOSED CONSTRUCTION PROJECTS	
FIGURE 3-1. EXISTING NOISE CONTOURS FOR LOUISVILLE INTERNATIONAL AIRPORT	3-9
FIGURE 3-2. SOUND LEVELS FOR EXISTING AND PROPOSED AIRCRAFT	
FIGURE 3-3. RUNWAY PROTECTION ZONES – STANDIFORD FIELD 123 AW	3-19

Page intentionally left blank

1.0 PURPOSE OF AND NEED FOR ACTION

The Air National Guard Bureau (ANG) has prepared this Environmental Assessment (EA) to consider the potential consequences to the human and natural environment associated with beddown (or aircraft conversion) of the C-17 or KC-135 aircraft and the associated construction projects at the 123d Airlift Wing (123 AW), Kentucky Air National Guard (Kentucky ANG), Standiford Field, Louisville, Kentucky . This EA also identifies applicable management actions and best management practices (BMPs) that would avoid or minimize effects relevant to the Proposed Action and alternatives.

The ANG has prepared this EA pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321–4347), Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500–1508), and the Environmental Impact Analysis Process (EIAP) (32 CFR 989, formerly promulgated as Air Force Instruction [AFI] 32-7061). The lead agency for this NEPA analysis is the ANG.

The analysis in this EA evaluates the potential environmental consequences of aircraft conversion and associated mission support projects. Based on this information, the ANG would determine whether to issue a Finding of No Significant Impact (FONSI) or to prepare an Environmental Impact Statement (EIS). As required by NEPA and its implementing regulations, preparation of an environmental document must precede final decisions regarding the proposed project, and be available to inform decision-makers of the potential environmental effects of selecting the Proposed Action, reasonable alternatives, or No Action Alternative.

1.1 LOCATION

The Kentucky ANG, 123 AW is on the Louisville International Airport (IAP), also known as Standiford Field in Louisville, KY, on property leased by the United States (U.S.) government from the City of Louisville Regional Airport Authority and licensed back to the Kentucky ANG (Figure 1-1). Louisville IAP is approximately 1,200 acres (486 hectares) in Jefferson County, near the intersection of Interstates 65 and 264. The 123 AW installation occupies approximately 81 acres (33 hectares) on the east side of the airfield (Figure 1-2).

1.2 BACKGROUND

The 123 AWs mission is (1) to provide worldwide theater airlift for U.S. military and humanitarian operations and (2) to protect peace and personal property and to assist the State of Kentucky in the event of emergencies (e.g., natural disasters or civil disturbances). The 123 AW maintains and operates eight C-130 model aircraft. The installation has 14 administrative, industrial, and service buildings totaling approximately 408,284 square feet (37,930 square meters).



Figure 1-1. Regional Location of 123 AW



Figure 1-2. Map of 123 AW

Personnel at the 123 AW include 124 full-time active guard reserves and technicians, 1,204 traditional guardsmen (part-time), and 221 full-time state civilian employees (Kentucky ANG 2011a).

1.3 PURPOSE AND NEED

The purpose of the action is to replace older airlift aircraft with newer and more agile airlift aircraft. In accordance with AFI 10-503, *Strategic Basing* (USAF 2010) regarding assignment of backup aircraft inventory, the ANG proposes to convert the 123 AW from C-130 aircraft to C-17 or KC-135 aircraft and to provide adequate space and facilities for mission support. There is strategic airlift capacity in the existing fleet of C-17 and KC-135 transport aircraft that is available to replace the aging fleet of C-130 aircraft. Conversion from the C-130 to the superior airlift capabilities of the C-17 and KC-135 would help meet the Air Force Strategic Basing Initiative. The need for action is to support the Air Force's Strategic Basing Initiative. The proposed conversion would include facilities construction and personnel changes needed to operate and maintain the aircraft and associated facilities for training.

1.4 SUMMARY OF ENVIRONMENTAL STUDY REQUIREMENTS

1.4.1 National Environmental Policy Act

NEPA requires federal agencies to take into consideration the potential environmental consequences of proposed actions in their decision-making process. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. The CEQ was established under NEPA to implement and oversee federal policy in this process. The CEQ subsequently issued the Regulations for Implementing the Procedural Provisions of the NEPA (40 Code of Federal Regulations [CFR] §§ 1500–1508) (CEQ 2005). The activities addressed within this document constitute a federal action and therefore must be assessed in accordance with NEPA. The Air Force's implementing procedures for NEPA are contained in 32 CFR 989 *et seq.*, *EIAP*.

1.4.2 Interagency and Intergovernmental Coordination for Environmental Planning and Public Involvement

The ANG provides opportunities for the public to participate in the NEPA process to promote open communication and improve their decision-making process. All persons and organizations identified as having potential interest in the Proposed Action and alternatives are encouraged to participate in the process.

Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental effects. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, State, and local agencies and allow them sufficient time to evaluate potential environmental effects of a Proposed Action.

NEPA, 40 CFR §§1500-1508, and 32 CFR Part 989 require public review of the EA before approval of the Finding of No Significant Impact and implementation of the Proposed Action. A Notice of Availability for public review of the Draft EA was published in the *Courier-Journal* on 5 August 2016 and 19 August 2016. The Draft EA was made available for public review at the Louisville Free Public Library – Main Library, 301 York Street Louisville, Kentucky 40203. Through the Interagency and Intergovernmental Coordination for Environmental Planning process, the ANG notified relevant federal, state, and local agencies and allowed them 30 days to make known their environmental concerns specific to the Proposed Action. Copies of all correspondence, public comments, and agency letters received are provided in Appendix A of the EA.

1.4.3 Water Resources

The Clean Water Act (CWA) of 1977 (33 USC § 1251 *et seq.*) regulates pollutant discharges that could affect aquatic life forms or human health and safety. Section 404 of the CWA, and EO 11990, *Protection of Wetlands*, regulate development activities in or near streams or wetlands. Section 404 also regulates development in streams and wetlands and requires a permit from the United States Army Corps of Engineers (USACE) for dredging and filling in wetlands. EO 11988, *Floodplain Management*, requires federal agencies to take action to reduce the risk of flood damage; minimize the effects of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains. Federal agencies are directed to consider the proximity of their actions to or within floodplains.

1.4.4 Cultural Resources

The National Historic Preservation Act (NHPA) of 1966 (16 USC § 470) established the National Register of Historic Places (NRHP) and the Advisory Council on Historic Preservation outlining procedures for the management of cultural resources on federal property. Cultural resources can include archaeological remains, architectural structures, and traditional cultural properties such as ancestral settlements, historic trails, and places where significant historic events occurred. NHPA requires federal agencies to consider potential effects to cultural resources that are listed, nominated to, or eligible for listing on the NRHP; designated as a National Historic Landmark; or valued by modern Native Americans for maintaining their traditional culture. Section 106 of NHPA requires federal agencies to consult with State Historic Preservation Officers if their undertakings might affect such resources.

The Archaeological Resources Protection Act of 1979 (16 USC §§ 470aa-mm) was created to protect archaeological resources and sites on public and Native American lands in addition to encouraging cooperation and exchange of information between governmental authorities, professionals, and private individuals. The act establishes civil and criminal penalties for destruction and alteration of cultural resources.

1.4.5 Air Resources

The Clean Air Act (CAA) (42 USC §§ 7401-7671q, as amended) provided the authority for the United States Environmental Protection Agency (USEPA) to establish nationwide air quality standards to protect public health and welfare. Federal agencies are required (40 CFR § 51, Subpart W) to determine a proposed action's conformity with the CAA and its 1990 amendments, which require each state to prepare a State Implementation Plan for achievement of air quality standards.

1.4.6 Hazardous Materials and Waste

Hazardous materials are defined in 49 CFR 171.8. Transportation of hazardous materials is regulated by the United States Department of Transportation (USDOT) regulations in 49 CFR §§ 105–180. Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 USC 6903(5), as amended by the Hazardous and Solid Waste Amendments. Special hazards are those substances (i.e., asbestos-containing materials, lead-based paint, and polychlorinated biphenyls) that could pose a risk to human health and are addressed separately from other hazardous substances (Toxic Substances Control Act Title 15 USC Chapter 53). Information on the location, quantity, and condition of hazardous materials and waste assists in determining the significance of a federal action.

1.4.7 Endangered Species Act

The Endangered Species Act of 1973 (16 USC §§ 1531-1544, as amended) established measures for the protection of plant and animal species that are federally listed as threatened and endangered, and for the conservation of habitats that are critical to the continued existence of those species. Federal agencies must evaluate the effects of their proposed actions through a set of defined procedures, which can include the preparation of a Biological Assessment and can require formal consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Act.

1.4.8 Other Executive Orders

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, provides that citizens in either of these categories are not disproportionately affected by a federal action. Additionally, potential health and safety effects that could disproportionately affect children are considered under the guidelines established by EO13045, Protection of Children from Environmental Health Risks and Safety Risks.

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, and EO 13693, *Planning for Federal Sustainability into the Next Decade*, were enacted to address GHG in detail, including GHG emissions inventory, reduction, and reporting.

1.5 RESOURCES NOT CARRIED FORWARD FOR DETAILED ANALYSIS

The determination of issues to be analyzed versus those not carried forward for detailed analysis is part of the EA scoping process as described in 40 CFR 1501.7(a) (3), which states that issues addressed in prior environmental reviews, or that are not significant, may be eliminated from discussion in the EA. Resources for which there would be no or negligible effects were eliminated. The following environmental resource areas were found to have no or negligible potential for direct, indirect, or cumulative effects, as a result of implementing the Proposed Action or alternatives. These include airspace, aesthetics and visual resources, socioeconomics, transportation, land use, geological resources, biological resources, and cultural or archaeological resources. These environmental resource areas are not carried forward for detailed analysis in the EA.

Airspace. The Proposed Action and alternatives would have negligible effects (i.e., effects that are not measurably different when compared to existing conditions) to airspace management and use. The Proposed Action would not include the creation of any new Federal Aviation Administration (FAA)-designated controlled airspace or the redesignation of any existing airspace. All FAA-designated controlled airspace would remain unchanged when compared to existing conditions. All aircraft operations associated with the 123 AW would continue to take place within existing FAA designated controlled airspace. There would be no changes in flight operations that would conflict with existing civilian, commercial, or military use of the regional airspace. Current airspace-management procedures would continue, whereas pilots would continue to avoid obstacles in congested areas by at least 1,000 feet (305 meters) vertically and 2,000 feet (610 meters) horizontally, and outside congested areas by at least 500 feet (152 meters) in all directions. These effects would be negligible; therefore, airspace was not carried forward for detailed analysis in this EA.

Aesthetics and Visual Resources. The Proposed Action and alternatives would have negligible effects to aesthetics or visual resources. Equipment used during the proposed construction projects could create a short-term visual effect; however, the visual environment of the 123 AW is typical of an industrial setting and does not constitute a unique or sensitive viewshed of public interest. The existing view is an airfield with supporting infrastructure. The existing facilities are equipped with lighting throughout the parking areas, pedestrian walkways, and access points. During the construction and demolition activities at the installation, the visual and aesthetic characteristics of areas undergoing development would be temporarily altered by the use of construction equipment, and the delivery and stockpiling of construction materials. Following completion of construction, the proposed facilities and associated infrastructure would remain as permanent visual features within the viewshed; however, the principal visual features of the facility would remain consistent with existing conditions. These effects would be negligible; therefore, aesthetics and visual resources were not carried forward for detailed analysis in this EA.

Socioeconomics. The Proposed Action and alternatives would have negligible beneficial effects to the local or regional socioeconomic environment. The 2014 total personal income for Louisville/Jefferson County metropolitan area exceeded \$55 billion and the total for industry gross domestic product exceeded \$67 billion. The total contribution to gross domestic product from all government sources (including federal civilian, military, and state and local government) was 9.2 percent (U.S. Bureau of Economic Analysis 2014). The Proposed Action would include short-term economic benefits from construction activities and some increase in earnings from limited increase in personnel due to the proposed aircraft conversion; however, such fractional effects would be negligible on a regional scale. There would be very minor permanent change in sales volume, income, employment, or population due to the Proposed Action. Consideration of environmental justice and protection of children is to ensure that no groups of people should bear a disproportionate share of the negative environmental consequences resulting from federal actions. The 2014 poverty level for Louisville/Jefferson County metropolitan area was 14.8 percent (Kentucky poverty level was 19.1 percent) and the minority population was 23.6 percent (Kentucky minority level was 12.6 percent) (U.S. Census Bureau 2014). The installation is bordered by interstate highways, and the airport. No minority populations or low-income populations are disproportionately near the 123 AW. In addition, no housing or facilities for children exist on or adjacent to the installation (Kentucky ANG 2011a). Potential short-term impacts associated with the Proposed Action and alternatives would be confined to installation property, and no impacts would occur to locations in the local area where children may gather. These effects would be negligible; therefore, socioeconomics was not carried forward for detailed analysis in this EA.

Transportation. The Proposed Action and alternatives would have negligible effects to traffic or transportation resources. Traffic levels in the project areas would not measurably increase or degrade the Level of Service on any nearby roadway or intersection. The construction and demolition activities would require use of heavy equipment and worker commutes that would generate short-term increases in traffic. The local roadway infrastructure would be sufficient to support these activities, and effects would be negligible. Because most of the work would take place on site, road closures or detours would not occur. All construction vehicles would be equipped with backing alarms, two-way radios, and Slow Moving Vehicle signs when appropriate. Contractors would route and schedule construction vehicles to further minimize conflicts with other traffic, and strategically locate staging areas to minimize these already limited effects. These effects would be negligible; therefore, transportation was not carried forward for detailed analysis in this EA.

Land Use. The Proposed Action and alternatives would have negligible effects to land use. Existing land use areas include airfield pavement, open space/buffer zone areas, aircraft maintenance areas, industrial areas, command and support areas, aircraft operations areas, and explosive safety areas that support mission functions. The area surrounding the airport is characterized as a developed environment with residential neighborhoods, commercial centers and industrial areas. The projects included in the Proposed Action are consistent with the 123 AW Installation Development Plan (IDP), including safety guidelines and established land use planning for the City of Louisville (Kentucky ANG 2011a). All project components would be designed and sited to be compatible with existing safety guidelines, including Anti-terrorism/Force Protection (AT/FP) standards (DOD 2012). Proposed activities would not alter the current land use classifications, nor would they occur on undeveloped lands. The effects would be negligible; therefore, land use was not carried forward for detailed analysis in this EA.

Geological Resources. The Proposed Action and alternatives would have negligible effects to geological resources. Most of the 123 AW is comprised of urban land soils (i.e., more than 85 percent of surface area is covered with asphalt, concrete, or buildings), which have been cut, filled, graded, and the natural characteristics generally altered or destroyed. The construction projects would be sited in previously disturbed, graded, and level locations. In addition, best BMPs specified by the Kentucky Department for Environmental Protection (KDEP) would be implemented to minimize the effects on geological resources. Proposed activities would not alter the topography of the existing terrain. These effects would be negligible; therefore, geological resources were not carried forward for detailed analysis in this EA.

Biological Resources. The Proposed Action and alternatives would have negligible effects to biological resources. The development of the installation and the municipal airport has removed much of the historic, native vegetative cover and replaced it with non-native landscaping to minimize bird aircraft strike hazards. Vegetation at the airport consists primarily of mowed turf grass and ornamental maintained landscaping. There is no wetland habitat on the installation. The 2011 IDP reported that wildlife species found on the installation are mostly limited to those that have adapted to high levels of human activity and disturbance. In addition, the 123 AW IDP (Kentucky ANG 2011a) reported that there are no documented populations of threatened or endangered species and that critical habitat is not present at the 123 AW. The potential effects would be negligible; therefore, biological resources were not carried forward for detailed analysis in this EA.

Cultural Resources. The Proposed Action and alternatives would have negligible effects to cultural resources. Louisville IAP has experienced extensive disturbance during the development and renovation of the airfield and support facilities. In 2010, an intensive Phase I archaeological survey was conducted at designated areas within the 123 AW to identify and determine the significance of any cultural resources (Kentucky ANG 2010). Results of the survey indicated no evidence of subsurface features, artifacts, or other intact cultural deposits and no archeological sites were recorded. Additionally, an architectural inventory was conducted at the 123 AW to evaluate the potential structures eligible for nomination to the NRHP. Structures were not recommended as eligible for listing on the NRHP, as they were less than 50 years of age and were lacking in historical and architectural significance. The 123 AW has standard operating procedures for protection of cultural materials and unmarked burials in the event of inadvertent discovery that apply to all ground disturbance activities. The Kentucky State Historic Preservation Office advised

that an archaeological or cultural historic survey should not be necessary for the proposed project area (Appendix A). Additionally, consultation with appropriate Native American tribal governments during the IICEP process is included in Appendix A. The potential effects would be negligible; therefore, cultural resources were not carried forward for detailed analysis in this EA.

1.6 RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS

After preliminary analyses of potential environmental issues, the following resource areas were carried forward for further analysis in the EA due to the potential for direct, indirect, or cumulative effects:

- Air Quality The analysis evaluates the potential effects of emissions from construction activities and aircraft operations.
- **Noise** The analysis evaluates potential effects related to noise from construction and aircraft operations.
- **Hazardous Materials and Wastes** The analysis evaluates hazardous materials and wastes generated, stored and disposed of from the proposed activities.
- **Health and Safety** The analysis evaluates ground and flight safety associated with aircraft conversion and associated projects.
- **Water Resources** The analysis evaluates the potential effects from stormwater runoff and for potential effects to wetlands or floodplains within the proposed project area.

Detailed descriptions of the affected environment and analysis of the environmental consequences associated with the Proposed Action and alternatives are in Chapter 3 of this EA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter presents a detailed description of the Proposed Action including the aircraft conversion and associated mission support projects at the 123 AW, Kentucky ANG, Standiford Field, Louisville, Kentucky. The details of the Proposed Action form the basis for the analyses of potential environmental effects presented in Chapter 3 of the EA. This chapter includes a discussion of considerations used to identify reasonable alternatives as well as the No Action Alternative.

2.1 SELECTION CRITERIA

The ANG conversion process is the official mechanism for unit activations, deactivations, mission and/or major equipment changes, relocations, integrations/associations and other events which significantly alter or affect the ANG units. An executable program is required before the first Site Activation Task Force is conducted due to organizational and/or mission changes as a result of a Base Realignment and Closure action, Total Force Integration Initiative, a Strategic Basing Action, or a programmatic action. An executable program is one where the requirement is validated and resources are identified and sourced.

The ANG is the lead agency to validate beddown locations and associated costs, facilitation of the execution phase of the conversion process, and is the Office of Primary Responsibility for all conversion related visits. All site survey requests and reports are accomplished in accordance with AFI 10-503, Strategic Basing. The ANG identified four locations for beddown of C-17 or KC-135 aircraft: 145th AW, Charlotte, North Carolina; 123 AW, Louisville, Kentucky; 165th AW, Savannah, Georgia; and 153d AW, Cheyenne, Wyoming.

A site visit was conducted to the 123 AW on 1-2 December 2015. The purpose of the site visit was to assess the feasibility of a future weapon system conversion and structure the Description of Proposed Action and Alternatives (DOPAA) to conduct an EA in accordance with NEPA on behalf of the ANG Director. The site visit report summary identified current infrastructure and capabilities by functional area and provided an overall status assessment of the ability of the 123 AW to conduct a future conversion, if directed. The C-17 is designed for transport of equipment and the KC-135 is designed primarily for refueling; however, this difference is not significant with regard to selection criteria. The other locations identified for beddown of C-17 or KC-135 aircraft are being looked at in separate EAs.

The aircraft conversion should be able to host the aircraft and its mobility support infrastructure without extensive facility construction or land acquisition. The conversion must be able to support large-scale cargo movement and handling, refueling system capabilities for large body aircraft, and aircrew training requirements. This EA considers the potential effect on the surrounding community and environmental resources such as air quality, noise, health and safety, hazardous materials and wastes, and water resources.

The associated construction projects should meet the purpose and need of replacing outdated, undersized, or inadequate facilities in a way that improves safety and morale of personnel and security of assets. The projects should provide for construction without significant environmental effects or development constraints that would result in excessive costs or schedule delays. The associated projects should provide for minimum DOD security standards, including AT/FP requirements specified by Unified Facilities Criteria (UFC) 4-010-01.

2.2 ALTERNATIVE 1: C-17 BEDDOWN (PROPOSED ACTION)

2.2.1 Aircraft Conversion

Under the Proposed Action, the 123 AW would convert to a squadron of C-17 aircraft. This would include the conversion of eight C-17 aircraft within approximately 5-7 years, and the simultaneous removal of eight currently assigned C-130 aircraft. The C-17 is a long-range, air-refuelable, turbofan-powered, high-wing, heavy military cargo aircraft built around a large, unobstructed cargo compartment. The C-17 combines the attributes of a strategic airlifter (e.g., long range, aerial refueling, and large payload) with those of a tactical airlifter (e.g., agility in the air, survivability, ability to operate on short runways and to airdrop cargo and personnel). Although some of the C-17 could be deployed at any given time, all aircraft being present at the base was carried forward in this EA as a reasonable upper bound for effects.

2.2.2 Aircraft Operations

The existing aircraft operations and those under the Proposed Action are detailed in Table 2-1. Currently there are approximately 464 sorties¹ at Standiford Field and 928 operations per year, half of which occur at night. Each sortie consists of two air operations: a takeoff/departure and an approach/landing. Each mission is approximately two hours long, and consists of numerous air operations (e.g., single takeoff or landing) at airfields, landing zones (LZs), and drop zones (DZs) outside of the immediate area, but normally within 400 miles (645 kilometers) of Standiford Field.

	A	0 1
Aircraft Operations	Existing	Proposed Action
Type of Aircraft	C-130	C-17
Number of Aircraft	8	8
Days Per Week	4	3
Average Hour Per Sortie	2	6
Sorties Per Day	2	1
Sorties Per Night	2	1
Drill Weekends Per Year	12	12

Table 2-1. Aircraft Operations - Existing and Proposed Action

¹ As used in this EA, a sortie consists of a single military aircraft from a take-off through a landing, and includes everything that might be conducted during that flying mission.

Aircraft Operations	Existing	Proposed Action
Sorties Per Day on Drill Weekend	2	2
Total Sorties Per Year	464	204
Operations Per Year	928	408
Drop Zones	Camp Atterbury, IN Fort Knox, KY	Camp Atterbury, IN Fort Knox, KY Other DZ within 400 miles
Assault Landing Strip/ Landing Zones	Fort Knox KY Columbus IN Other airports within 400 miles	Fort Knox KY Columbus IN Other airports within 400 miles
Low Level Routes	11 LLRs located in IN and KY	11 LLRs located in IN and KY Any designated low level route within 400 miles of your base

Airfields utilized outside the local airspace include Camp Atterbury, Fort Knox, and Columbus. In addition, training is conducted at several low level training routes (LLR) located in Indiana and Kentucky. Aircraft operations areas are presented in Figure 2-1.

Under the Proposed Action, the total amount of training would remain unchanged; however, due to the nature of C-17 training requirements each mission would be approximately six hours long as opposed to two hours long, and the number of air operation would lessen appreciably when compared to existing conditions. The eight C-17 assigned to the 123 AW would conduct approximately 204 sorties (i.e., 408 air operations) at Standiford Field, half of which would occur at night. As with the C-130 aircraft, each mission would consist of numerous air operations (e.g., single takeoff or landing) at airfields, LZs, or DZs outside of the immediate area, but normally within 400 miles of Standiford Field. Airfields utilized outside the local airspace would remain unchanged; however, due to the size and training requirements of the C-17, air operations could be conducted I designated airspace within 400 miles (645 kilometers) of Standiford Field.

2.2.3 Personnel Changes

The proposed aircraft conversion would result in a net gain of personnel at the 123 AW. It is likely that individuals currently at the 123 AW would fill some of the proposed full-time positions and the percent change in full-time personnel could be lower than projected. Table 2-2 provides a breakdown of the authorized personnel.

 Table 2-2. Authorized Personnel for the 125 Avv							
Personnel ¹	Existing Personnel	Proposed Personnel	Percent Change				
Fulltime	350	398	13.7				
Part-time	866	1,257	45.1				
Total Authorized	1,216	1,655	26.5				

Table 2-2. Authorized Personnel for the 123 AW

¹ Full time employees include federal employees and Active Guard Reserve working Monday through Friday. Part time employees are primarily drill weekend and includes total authorized minus fulltime employees



Figure 2-1. Current 123 AW Aircraft Operations Areas

2.2.4 Construction Projects

Concurrent with the aircraft conversion, the 123 AW would implement construction projects described in Table 2-3. The proposed projects would meet all criteria specified in the ANG Handbook 32-1084, *Facility Requirements*. Low-impact development techniques would be incorporated into construction projects, in accordance with the Energy Independence and Security Act Title IV § 438, UFC (DOD 2015) on Low Impact Development (UFC 3-210-10), and EO 13693, *Planning for Federal Sustainability in the Next Decade* to maintain or restore predevelopment hydrology as part of stormwater management. Proposed facilities development would include upgrading facilities to consolidate similar land uses, meet current safety standards, streamline operations, and help support the mission of the 123 AW as efficiently as possible. The proposed projects would also include demolition of facilities that are either outdated or would be rendered redundant by new construction and consolidation of functions at the installation. The construction period would be within five years.

Sustainable strategies and energy reduction practices for military construction projects would be incorporated into the Proposed Action as part of Air Force sustainability policy and Leadership in Energy and Environmental Design requirements. Guidance for these strategies is presented in Engineering Technical Letter 08-13: *Incorporating Sustainable Design and Development and Facility Energy Attributes in the Air Force Construction Program*.

Project #	Project Name	Project Description			
1	Petroleum, Oil, and Lubricant (POL) Farm	Install required vertical tanks to have sufficient fuel storage capacity.			
2	Fuel Hydrant System	Install a fuel hydrant system to support refueling for the aircraft conversion.			
3	Maintenance Hangar	Construct a new maintenance hangar to accommodate the conversion aircraft			
4	Fuel Cell/Corrosion Control Hangar	Construct an adequate facility for corrosion control and maintenance functions to support the aircraft conversion			
5	Simulator/AGE	Renovate Building 500 Hangar to support a new flight simulator for the aircrew training program required for the aircraft conversion.			
6	Covered Storage for Fire Apparatus	Construct an additional bay to the fire control building.			
7	Vehicle Maintenance Modification	Install a bay door modification so the 60 K-Loader can be serviced.			

Table 2-3. Proposed Construction Projects

Project 1: POL Farm. Install required vertical tanks to have sufficient fuel storage capacity. The base requires suitable and sufficient space to perform management of POL (Petroleum, Oil, and Lubricant) dispensing operations to support the aircraft conversion. This would include management and control of all base functions related to the handling of petroleum products, including their receipt, storage, issue, testing to ensure the aircraft fuel products conform to military specifications, and to ensure

POL operators are technically capable of performing duties. The existing Building 520 is portable and would be relocated on the 123 AW.

Project 2: Fuel Hydrant System. The base proposes to install a fuel hydrant system in the 123 AW ramp to support refueling for the aircraft conversion. The construction would involve installation of high pressure, large diameter, and underground fuel pipelines from the proposed POL Farm to the adjacent ramp. The project would include airfield pavement removal and replacement.

Project 3: Maintenance Hangar. The current maintenance hangar, Building 500 is not large enough to accommodate the conversion aircraft. The base proposes to construct a new maintenance hangar in the existing parking lot facing the aircraft parking ramp and relocate the current parking to the planned Grade Lane Acquisition.

Project 4: Fuel Cell/Corrosion Control Hangar. Construct New C-17 Hangar to support Fuel Cell/Corrosion Control. The base requires an adequate facility for corrosion control and maintenance functions to support the aircraft conversion, as well as shop areas to accommodate maintenance and training on composite materials. The existing Building 510 would be demolished and the new fuel cell/corrosion control hangar would be constructed in place. The new facility would have sufficient lighting, heating, ventilation, fire protection/suppression, and environmental systems to effectively and safely support the mission.









Project 5: Simulator/AGE. Renovate Building 500 Hangar to support a new flight simulator for the aircrew training program required for the aircraft conversion. The simulator will provide initial training, qualification, proficiency, and effective mission procedures training. This simulator is essential to provide hazardous/emergency training procedures that otherwise could not be provided. Functional areas would include a simulator bay, computer room, hydraulic pump room, simulator maintenance



shops, training/briefing rooms, and administration rooms. The base requires an adequately sized and properly configured area to support the maintenance and storage of the Aerospace Ground Support Equipment for the aircraft conversion. The functional area would include maintenance shop area, parts and tools storage area; administrative support, training space and bathrooms /locker areas.

Project 6: Covered Storage for Fire Apparatus. Covered storage for fire apparatus is required due to the addition of a fire truck to provide adequate fire protection for the aircraft conversion. The construction would provide an additional bay to the fire control Building 200. The addition would be constructed on adjacent developed area.

Project 7: Vehicle Maintenance Modification. The base proposes to modify the vehicle maintenance bay in Building 600 to accept the wide body K-Loader. This aircraft cargo loader/transporter is a wide body elevator loader capable of transporting and loading 60,000 pounds (2,722 kilograms) of cargo pallets. This modification would include a bay door modification so the 60 K-Loader can be serviced.

The proposed construction activities would be sited as shown

in Figure 2-2. As indicated, all of the proposed projects would be in developed areas of the base.

2.3 ALTERNATIVE 2: KC-135 BEDDOWN

2.3.1 Aircraft Conversion

Under Alternative 2, the 123 AW would convert to a squadron of KC-135 aircraft. This would include the conversion of eight KC-135 aircraft within approximately 5-7 years, and the simultaneous removal of currently assigned C-130 aircraft. The KC-135 Stratotanker provides the core aerial refueling capability for the United States Air Force (USAF) and nearly all internal fuel can be transferred in-flight through a boom to other aircraft. Four turbofan engines power the







Note: ESQD is explosive safety quantity distance. Figure 2-2. Proposed Construction Projects

KC-135 to gross weights of up to 322,500 pounds (146,283 kilograms), and a cargo deck above the refueling system can hold a combination of passengers and cargo. Although some of the proposed KC-135 could be deployed at any given time, all aircraft being present at the base was carried forward in this EA as a reasonable upper bound for effects.

2.3.2 Aircraft Operations

The existing and proposed aircraft operations under Alternative 2 are detailed in Table 2-4. Existing aircraft operations are described in detail in Section 2.2.2, Proposed Action. Under Alternative 2, the total amount of training would be similar to existing conditions; however, due to the nature of KC-135 training requirements each mission would be approximately eight hours long, and the number of air operations would lessen appreciably when compared to existing conditions. The eight KC-135 assigned to the 123 AW would conduct approximately 180 sorties (i.e., 360 air operations) at Standiford Field, half of which would occur at night. As with the C-130, each mission would consist of numerous air operations (e.g., single takeoff or landing) at airfields outside of the immediate area. Missions would typically be conducted within 400 miles (645 kilometers) of Standiford Field; however, due to the aircraft long-range capabilities and overall mission some training would occur at areas beyond 400 miles. Airfields utilized outside the local airspace would remain unchanged when compared to existing conditions; however, due to the size and training requirements of the KC-135, air operations would no longer be conducted at any DZs or low-level training routes.

	in cruit operations Existing a	
	Existing	Alternative 2
Type of Aircraft	C-130	KC-135
Number of Aircraft	8	8
Days Per Week	4	3
Average Hour Per Sortie	2	8
Sorties Per Day	2	1
Sorties Per Night	2	1
Drill Weekends Per Year	12	12
Sorties Per Day on Drill	2	1
weekend		
Total Sorties Per Year	464	180
Operations Per Year	928	360
Drop Zones	Camp Atterbury, IN Fort Knox, KY	None
Assault Landing Strip/	Fort Knox KY	Fort Knox KY
Landing Zones	Columbus IN	Columbus IN
	Other airports within 400 miles	Other airports within 400 miles
Low Level Routes	11 LLRs located in IN and KY	None

Table 2-4. Aircraft Operations - Existing and Alternative	Table 2-4.	2-4. Aircraft	Operations -	- Existing	and Alternati	ve 2
---	------------	---------------	---------------------	------------	---------------	------

2.3.3 Personnel Changes

Under Alternative 2, there would be a loss of approximately 71 full-time personnel and retain approximately the same number of part-time personnel for operations and maintenance at the 123 AW. It is likely that individuals currently at the 123 AW would be reassigned to fill other full-time positions required at the 123 AW.

2.3.4 Construction Projects

Under Alternative 2, the proposed construction projects would be the same as those listed for Alternative 1. The proposed projects would provide adequate space and facilities for mission support for conversion to a squadron of KC-135 aircraft. The siting locations would be as presented for Alternative 1.

2.4 NO ACTION ALTERNATIVE

The CEQ regulation 40 CFR §1502.14(d) specifically requires analysis of the "No Action" alternative in all NEPA documents. Under the No Action Alternative, the 123 AW would not implement the actions described above. The 123 AW would continue to conduct their current mission using the existing C-130 aircraft and existing facilities. Although the No Action alternative does not meet any of the selection criteria, or fulfill the purpose and need of the action, it has been carried forward for detailed analysis in this EA as required under NEPA.
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes relevant and existing environmental conditions for resources potentially affected by the Proposed Action and alternatives. In compliance with the NEPA, CEQ regulations, AFI 32-7061, and UFC 3-260-01, the description of the affected environment focuses on only those aspects of the environment potentially subject to effects. In general, the description of the affected environment and assessment of environmental consequences focuses on the Kentucky ANG installation, Standiford Field, and Jefferson County.

The resources carried forward for detailed analysis include air quality, noise, hazardous materials and wastes, health and safety, and water resources. A description of the affected environment and the detailed evaluation of environmental consequences on these resource areas are provided in the following sections.

3.1 AIR QUALITY

3.1.1 Definition of Resource

Air pollution is the presence in the outdoor atmosphere of one or more contaminants (e.g., dust, fumes, gas, mist, odor, smoke, or vapor) in quantities and of characteristics and duration such as to be injurious to human, plant, or animal life, or to interfere unreasonably with the comfortable enjoyment of life and property. Air quality as a resource incorporates several components that describe the levels of overall air pollution within a region, sources of air emissions, and regulations governing air emissions. The following sections include a discussion of the existing conditions, a regulatory overview, and a summary of GHGs and global warming.

3.1.2 Affected Environment

The USEPA and KDEP regulate air quality in Kentucky. The CAA (42 USC 7401-7671q), as amended, assigns the USEPA responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) that specify acceptable concentration levels of six criteria pollutants: particulate matter (measured as both particulate matter less than 10 microns in diameter [PM₁₀] and particulate matter less than 2.5 microns in diameter [PM_{2.5}]), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead. Shortterm NAAQS (1-, 8-, and 24-hour periods) have been established for pollutants contributing to acute health effects, while long-term NAAQS (annual averages) have been established for pollutants contributing to chronic health effects.

Federal regulations designate Air Quality Control Regions (AQCRs) in violation of the NAAQS as nonattainment areas. Federal regulations designate AQCRs with levels below the NAAQS as attainment areas. Maintenance areas are AQCRs that have previously been designated as

nonattainment and have been redesignated to attainment for a probationary period through implementation of maintenance plans.

3.1.2.1 Local Air Quality

Jefferson County (and therefore all areas associated with the action) is within the Louisville Interstate AQCR (40 CFR 81.35). The USEPA has designated Jefferson County as nonattainment $PM_{2.5}$ as well as maintenance area for 8-hour O₃ NAAQS (USEPA 2016a). For reference purposes, Table 3-1 shows the concentrations of criteria pollutants at the monitoring locations within the county (USEPA 2016b).

Pollutant	Ai	r Quality Standard	Monitored Concentrations		ations
	Level	Averaging Period	2012	2013	2014
СО					
1-hour (ppm)	35	Not to be exceeded more	2.9	2.9	2.1
8-hour (ppm)	9	than once per year	1.7	1.4	1.1
Nitrogen Dioxide (NO ₂)				
1-hour (ppb)	100	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	No Data	14	49
O ₃					
8-hour (ppm)	0.070	3-year average of the fourth highest daily maximum	0.092	0.068	0.070
SO ₂					
1-hour (ppm)	75	98th percentile, averaged over 3 years	147	93	149
3-hour (ppb)	0.5	Not to be exceeded more than once per year	No Data	No Data	No Data
PM _{2.5}					
24-hour (μg/m³)	35	98th percentile, averaged over 3 years	26	24	28
Annual mean (μg/m³)	12	Averaged over 3 years	13.3	12.5	12.6
PM10					
24-hour (μg/m³)	150	Not to be exceeded more than once per year over 3 years	21	17	59

Table 3-1. Air Quality Standards and Monitored Data

Source: 40 CFR 50.1-50.12, USEPA 2016b.

ppm = parts per million; ppb = parts per billion; μ g/m3 = micrograms per cubic meter

3.1.2.2 Climate and Greenhouse Gases (GHG)

Louisville's average high temperature is 87° Fahrenheit (°F) (30.6° Celsius (°C)) in the hottest month of July, and an average low temperature of 24.9°F (-3.9°C) in the coldest month of January.

Louisville has average annual precipitation of 42.8 inches (108.7 centimeters) per year. The wettest month of the year is May with an average rainfall of 4.5 inches (11.4 centimeters) (Idcide 2014).

GHGs are components of the atmosphere that trap heat relatively near the surface of the earth, and therefore, contribute to the greenhouse effect and climate change. Most GHGs occur naturally in the atmosphere, but increases in their concentration result from human activities such as the burning of fossil fuels. Global temperatures are expected to continue to rise as human activities continue to add carbon dioxide (CO_2), methane, nitrous oxide, and other greenhouse (or heat-trapping) gases to the atmosphere. Whether or not rainfall will increase or decrease remains difficult to project for specific regions (USEPA 2016c and IPCC 2014).

EO 13693, *Planning for Federal Sustainability in the Next Decade* outlines policies intended to ensure that Federal agencies evaluate climate-change risks and vulnerabilities, and to manage the short- and long-term effects of climate change on their operations and mission. The EO specifically requires agencies within the Department of Defense (DOD) to measure, report, and reduce their GHG emissions from both their direct and indirect activities. The DOD has committed to reduce GHG emissions from non-combat activities 34 percent by 2020 (DOD 2014). In addition, the CEQ recently released draft guidance on when and how federal agencies should consider GHG emissions and climate change in NEPA analyses. The draft guidance includes a presumptive effects threshold of 27,563 tons per year (25,000 metric tons per year) of CO₂ equivalent emissions from a federal action (CEQ 2014).

3.1.3 Environmental Consequences

3.1.3.1 Significance Criteria

Effects would not exceed the significances criteria for air quality unless the emissions would exceed the general conformity rule *de minimis* (of minimal importance) threshold values, would exceed the GHG threshold in the draft CEQ guidance, or would contribute to a violation of any federal, state, or local air regulation.

3.1.3.2 Proposed Action

The Proposed Action would have short- and long-term less than significant adverse effects. Shortterm increases in emissions would be due to generating airborne dust and other pollutants during construction. Long-term increases in emissions would be due to the increase in mobile source emissions such as commuter vehicles and aircraft. Increases in emissions would be below the general conformity rule *de minimis* thresholds, would not exceed the GHG threshold in the draft CEQ guidance, and would not contribute to a violation of any federal, state, or local air regulations.

The Proposed Action is within a region USEPA has designated as a nonattainment or maintenance area for the NAAQS (USEPA 2016a) and the total direct and indirect emissions from the Proposed

Action have been compared to the *de minimis* thresholds to determine if the General Conformity Rule (GCR) applies, and the level of effects under NEPA. The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality effects associated with the action in accordance with the GCR (GCR, 40 CFR 93 Subpart B). Construction and demolition emissions were estimated for fugitive dust, on- and off-road diesel equipment and vehicles, worker trips, architectural coatings, and paving off-gasses (Table 3-2). The estimated emissions from the Proposed Action would be below the *de minimis* thresholds; therefore, GCRs would not apply and level of effects would be less than significant. A Record of Non-Applicability is in Appendix B.

				-					-
	Activity/Source	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}	De	Exceeds De
								minimis	Minimis
								Threshold	Thresholds?
								[tpy]	[Yes/No]
	Construction	2.7	8.9	7.1	<0.1	5.5	.5	100	No
	Operations	<0.1	68.7	<0.1	1.7	8.0	6.8	100	No
~									

Table 3-2. Annual Air Emissions Compared to De Minimis Thresholds - Proposed Action

Source: USAF 2013a.

Regulatory Review

Any new stationary sources of emissions such as back-up generators or boilers would be added to the base's air-operating permit. In addition, the Kentucky Administrative Regulations (KAR) outlines other non-permitting requirements, such as controlling fugitive dust and open burning. All persons responsible for any operation, process, handling, transportation, or storage facility that could result in fugitive dust would take reasonable precautions to prevent such dust from becoming airborne. Reasonable precautions might include using water to control dust from building construction, road grading, or land clearing. In addition, the Proposed Action would proceed in full compliance with current KAR requirements, with compliant practices and/or products. These requirements include the following:

- Open burning (401 KAR 63-005);
- Fugitive emissions (401 KAR 63-010); and
- Asphalt paving operations (401 KAR 63-025).

This listing is not all-inclusive; the ANG and any contractors would comply with all applicable air pollution control regulations.

Greenhouse Gases and Climate Change

The net change in GHG emissions under the Proposed Action would be an increase of approximately 5,860 tons per year (5,328 metric tons per year) of CO₂, which would be below the CEQ threshold of 25,000 metric tons per year. These emissions account for changes in aircraft

activities, changes in personnel, and heating and cooling of buildings. This limited amount of GHG emissions would not contribute to global warming to any discernible extent. These effects would be less than significant.

3.1.3.3 Alternative 2

Alternative 2 would have short- and long-term less than significant adverse effects. Increases in emissions would be similar in nature to those outlined under the Proposed Action. Increases in emissions would be below the general conformity rule *de minimis* thresholds, would not exceed the GHG threshold in the draft CEQ guidance, and would not contribute to a violation of any federal, state, or local air regulations. Regulatory requirements would be identical to those outlined under the Proposed Action.

As with the Proposed Action, the estimated emissions from Alternative 2 would be below the *de minimis* thresholds; therefore, the general conformity rules would not apply (Table 3-3). In addition, the net change in GHG emissions under Alternative 2 would be an increase of approximately 1,378 tons per year (1,253 metric tons per year) of CO_2 , which would be below the CEQ threshold of 25,000 metric tons per year. As with the Proposed Action and for similar reasons, these effects would be less than significant and the general conformity rule would not apply.

			- · I. · ·						
Activity/Source	VOC	NO _x	СО	SO _x	PM ₁₀	PM _{2.5}	<i>De</i> <i>minimis</i> Threshold [tpy]	Exceeds <i>De Minimis</i> Thresholds? [Yes/No]	
Construction	2.7	8.9	7.1	<0.1	5.5	.5	100	No	
Operations	<0.1	14.5	<0.1	0.3	<0.1	<0.1	100	No	

 Table 3-3. Annual Air Emissions Compared to De Minimis Thresholds - Alternative 2

Source: USAF 2013.

3.1.3.4 No Action Alternative

Under the No Action Alternative, none of the proposed activities would occur. The ANG Strategic Basing Initiative for the 123 AW would not be implemented. Existing conditions would remain unchanged, and there would be no effects to air quality.

3.2 NOISE

3.2.1 Definition of Resource

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often

generated by activities essential to a community's quality of life, such as construction, vehicular traffic, or aircraft activities.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz are used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighing", measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their dBA levels are provided in Table 3-4.

Table 3-4. Common Sounds and Then Devels					
Outdoor	Sound Level (dBA)	Indoor			
Motorcycle	100	Subway train			
Tractor	90	Garbage disposal			
Noisy restaurant	85	Blender			
Downtown (large city)	80	Ringing telephone			
Freeway traffic	70	TV audio			
Normal conversation	60	Sewing machine			
Rainfall	50	Refrigerator			
Quiet residential area	40	Library			

Table 3-4.	Common	Sounds	and	Their	Levels

Source: Harris 1998.

The dBA noise metric describes steady noise levels, although very few noises are, in fact, constant; therefore, A-weighted day-night Sound Level has been developed. Day-night Sound Level (DNL) is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10:00 p.m. to 7:00 a.m.). DNL is a useful descriptor for noise because: (1) it averages ongoing yet intermittent noise, and (2) it measures total sound energy over a 24-hour period. In addition, Equivalent Sound Level (L_{eq}) is often used to describe the overall noise environment. L_{eq} is the average sound level in dB.

3.2.2 Affected Environment

Existing sources of noise include commercial and private aircraft overflights, military aircraft overflights, road traffic, and other noises such as lawn maintenance equipment, construction noise, and bird and animal vocalizations. Background noise levels without aircraft operations (L_{eq} and DNL) were estimated for the surrounding areas using the techniques specified in the *American National Standard Institute - Quantities and Procedures for Description and Measurement of Environmental Sound Part 3: Short-term measurements with an observer present*. Table 3-5 identifies the land use category and the estimated background noise levels for nearby noise sensitive areas (ANSI 2013).

Example Land Use Category	Average Residential Intensity	DNL	L _{eq} (dBA)	
	(people per acre)		Daytime	Nighttime
Rural or remote	<2	<49	<48	<42
Suburban residential	2	49	48	42
	4	52	53	47
	4.5	52	53	47
Quiet urban residential	9	55	56	50
Quiet commercial, industrial, and	16	58	58	52
normal urban residential	20	59	60	54

Table 3-5. Estimated Background Noise Levels

Source: ANSI 2013.

The Air Force's land use guidelines for noise exposure are essentially the same as those published by the Federal Interagency Committee on Urban Noise in the June 1980 publication, *Guidelines for Considering Noise in Land-Use Planning and Control* and are consistent with FAA's noise assessment policy (14 CFR Part 150). These guidelines stem from the USEPA 1974 *Levels Document* which suggested continuous and long-term noise in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals. Table 3-6 outlines recommended noise limits from aircraft operations for land use planning purposes. Detailed guidelines based on the compatibility of various land uses with aircraft noise are included as Appendix C for convenience.

Table 3-6.	Recommended	l Noise I	Limits for	Land Us	e Planning
					· · ·

General Level of Noise	Aircraft Noise (DNL)	Recommended Uses
Low	< 65 dBA	noise-sensitive land uses acceptable
Moderate	65–75 dBA	noise-sensitive land uses normally not recommended
High	> 75 dBA	noise-sensitive land uses not recommended

Source: USAF 2015.

Standiford Field-Louisville International Airport

Integrated Noise Model (INM) is a suite of computer programs adopted by the FAA which predict noise exposure in the vicinity of an airfield due to aircraft, maintenance, and ground run-up operations. INM was used to calculate the existing DNL noise contours at Standiford Field based on the average daily aircraft operations. Figure 3-1 shows the existing 2011 DNL noise contours plotted in 5 dB increments, ranging from 65 to 75 dBA DNL.

The existing 65 dBA DNL noise contour extends approximately two miles from both ends of the runway. As previously mentioned, DNL 65 dB is the noise level below which all land uses are normally compatible with airfield operations.

Table 3-7 shows the existing air operations at Standiford Field. There are approximately 146,939 air operations (i.e. a single take-off or landing) at Standiford Field each year, or 403 each day on

average. The 123 AW conducts 928 air operations at Standiford Field each year (two-three each day on average) accounting for approximately two percent of the airport-wide operations. The existing ANG aircraft operations and associated noise are orders of magnitude smaller than those from the commercial aircraft that dominate the overall noise at Standiford Field.

	Overall Airc	raft Operations
	Annual	Average Daily
Airport-Wide Operations	146,939	403
ANG Operations (C-130)	928	2.5
Percent ANG to Airport-Wide Operations	0.6%	0.6%
Source: FAA 2016.		

Table 3-7. Existing Overall Air Operations at Standiford Field

Landing Zones and Assault Landing Strips

The LZs utilized by the C-130, within 400 miles (645 kilometers), consist of numerous, previously established publicly-owned airfields, and assault landing strips in Jefferson County, Fort Knox, and Columbus, Indiana. Existing sources of noise consist primarily of aircraft activities. Background noise in areas surrounding the LZs range from 48 to 60 dBA in the daytime and 42 to 54 dBA at night. Aircraft operations would be clearly audible to individuals under the flight path, particularly at night; however, air operations at smaller LZs such as assault landing strips in Jefferson County normally are not sufficient to generate greater than 65 dBA DNL beyond the immediate area surrounding the runway. Air operations at midsized and larger LZs (e.g. Fort Knox, Lexington, Columbus, Indiana; Nashville, Tennessee; and Cincinnati, Ohio; airports) are normally sufficient to generate greater than 65 dBA DNL beyond the immediate area of the runway.

Drop Zones

Existing sources of noise at DZs, including Fort Knox DZ within Hardin County and DZs like Camp Atterbury, north of Standiford Field are consistent with active military installations and aviation training areas. In the immediate area surrounding the DZs the noise is often dominated by intermittent fixed-wing and rotary aircraft overflights. Depending on the location of the DZs, the number of overflights can range from a few per year to several per day. Background noise in areas surrounding the DZs ranges from 48 to 60 dBA in the daytime and 42 to 54 dBA at night. In general, aircraft operations at DZs can be loud to individuals under the flight path, but not sufficient to generate greater than 65 dBA DNL beyond the immediate area. In general, aircraft activities at DZs are completely compatible with noise sensitive land uses.



Figure 3-1. Existing Noise Contours for Louisville International Airport

3.2.2.1 Regulatory Overview

The Noise Control Act of 1972 (public law [PL] 92-574) directs federal agencies to comply with applicable federal, state, and local noise control regulations, and specifically exempts military training activities, and both civilian and military aircraft operations. For other activities, the ANG is required to comply with local noise control regulations for off-base areas. The Louisville-Jefferson County noise ordinance set strict not-to-exceed noise levels at residential properties. Construction activities are specifically exempt between the hours of 7:00 a.m. and 9:00 p.m. (Louisville-Jefferson County §99: Noise).

3.2.3 Environmental Consequences

This section provides a discussion of the environmental effects of the Proposed Action and alternatives to the noise environment.

3.2.3.1 Significance Criteria

Effects to noise would be less than significant unless the Proposed Action would (1) result in the violation of applicable federal, state, or local noise regulation, or (2) create appreciable areas of incompatible land use outside the property boundary of the airport.

3.2.3.2 Proposed Action

The Proposed Action would have short-term less than significant adverse effects and long-term beneficial effects on the noise environment. Short-term effects would be due to use of heavy equipment during construction. Long-term beneficial effects would be due to the incremental decrease in aircraft operations at Standiford Field, and some LZs and DZs within 400 miles (645 kilometers) of the airport. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use outside the property boundary of the airport.

Construction Effects

Table 3-8 presents typical noise levels (dBA at 50 feet [15 meters]) that the USEPA has estimated for the main phases of outdoor construction. Individual pieces of heavy equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet (15 meters). With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of sites using heavy equipment. The zone of relatively high noise typically extends to distances of 400 to 800 feet (122 to 244 meters) from the site of major equipment operations.

All construction activities would be away from the airport property boundary where there are no nearby noise receptors and existing aircraft activities are both frequent and loud. Given the limited

amount of noise that heavy equipment would generate, the remote location and the existing operational noise from aircraft activities, these effects would be less than significant.

Construction Phase	L _{eq} (dBA)
Ground clearing	84
Excavation, grading	89
Foundations	78
Structural	85
Finishing	89

Table 3-8. Noise Levels Associated With Outdoor Construction

Source: USEPA 1971.

Although these effects would be minor, the following BMPs would be implemented to further reduce any realized noise effects:

- Construction activities would primarily occur during normal weekday business hours;
- Heavy equipment mufflers would be properly maintained and in good working order; and
- Construction personnel, and particularly equipment operators, would don adequate personal hearing protection to limit exposure and ensure compliance with the Air Force Occupational Safety and Health Standard 48-20 (USAF 2013b).

Standiford Field-Louisville International Airport

Long-term minor beneficial effects would be due to an incremental decrease in aircraft operations at Standiford Field. Table 3-9 shows the existing air operations at Standiford Field, and those that would occur with the Proposed Action. Approximately 520 fewer air operations per year would be flown to or from Standiford Field under the Proposed Action. This would equate to an average of 1.4 fewer operations per day, a decrease of approximately 57 percent when compared to existing C-130 operations and a decrease of approximately than one (1) percent when compared to existing airport-wide operations.

	Overall Aircraft Operations			
	Annual	Average Daily		
National G	uard Bureau			
Existing (C-130)	928	2.5		
Proposed Action (C-17)	408	1.1		
Reduction In Operations	520	1.4		
Percent Reduction In ANG Operations	56%	56%		
Airpo	rt-wide			
Existing	146,939	403		
Proposed Action	146,419	401		
Percent Reduction In Airport-Wide				
Operations	1.0%	1.0%		
Source: SDF 2015 and FAA 2016.				

 Table 3-9. Aircraft Operations at FAA Standiford Field - Proposed Action

The sound levels from a C-17 overflight are comparable to that of a C-130 at all distances (Figure 3-2). In general, it would take a 100 percent increase in air operations of similar aircraft to have even a barely perceptible change to the noise environment (e.g., greater than 3 dBA). Therefore, the one percent decrease in airport-wide operations would be so small when compared to existing conditions it would have no perceptible effect on the overall noise in surrounding areas. In the immediate area surrounding Standiford Field the noise environment would continue to be dominated by aircraft takeoff and landing operations, and the decrease in aircraft operations would amount to an overall decrease in noise of less than 0.1 dBA DNL at Standiford Field. Although there would be a small change in the overall noise environment at Standiford Field, noise from individual overflights would continue to generate distinct acoustical events, and have the potential from time-to-time to annoy residents directly under their flight path. These effects would be less than significant.



Figure 3-2. Sound Levels for Existing and Proposed Aircraft

Landing Zones and Assault Landing Strips

Long-term minor beneficial effects would be expected. These effects would be from the elimination of air operations and associated noise at the assault landing strip at Fort Knox, and Columbus, Indiana. Sources of noise at LZs would remain consistent with active military installations and airports, and the noise environment in areas surrounding these LZs would continue to be dominated by intermittent fixed-wing and rotary aircraft overflights. These incremental changes in air operations would be so small when compared to existing conditions it would have no perceptible effect on the overall noise surrounding the LZs. These effects would be minor.

Drop Zones

Long-term minor beneficial effects would be expected. These effects would be from the elimination of air operations and associated noise at the assault landing strip at Fort Knox, and Columbus, Indiana. Sources of noise at DZs would remain consistent with active military installations and aviation training areas, and the noise environment in areas surrounding DZs would continue to be dominated by intermittent fixed-wing and rotary aircraft overflights. These incremental changes in air operations would be so small when compared to existing conditions it would have no perceptible effect on the overall noise surrounding the DZs. These effects would be less than significant.

3.2.3.3 Alternative 2

Alternative 2 would have short-term less than significant adverse effects and long-term beneficial effects on the noise environment. Short-term effects would be due to use of heavy equipment during construction identical to those outlined under the Proposed Action. Long-term beneficial effects would be due to the incremental decrease in aircraft operations at Standiford Field, and some LZs and DZs within 400 miles (645 kilometers) of the airport. These effects would not (1) result in the violation of applicable federal, state, or local noise regulation; or (2) create appreciable areas of incompatible land use outside the property boundary of the airport.

Standiford Field-Louisville International Airport

Long-term minor beneficial effects would be due to an incremental decrease in aircraft operations at Standiford Field. Table 3-10 shows the existing air operations at Standiford Field, and those that would occur with Alternative 2. Approximately 568 fewer air operations per year would be flown to or from Standiford Field under Alternative 2. This would equate to an average of 1.6 fewer operations per day, equating to a decrease of approximately 50 percent when compared to existing airport-wide operations. The sound levels from a C-17 overflight are comparable to that of a C-130 at all distances (Figure 3-2). As with the Proposed Action, and for similar reasons, the additional aircraft operations would amount to an overall decrease in noise of less than 0.1 dBA DNL at Standiford Field. In the immediate area surrounding Standiford Field, the noise environment would continue to be dominated by aircraft takeoff and landing operations. These effects would be less than significant.

rubie e routier operations at ba				
	Overall Aircraft Operations			
	Annual	Average Daily		
Air National Guard				
Existing (C-130)	928	2.5		
Alternative 2 (KC-135)	360	0.9		
Reduction In Operations	568	1.6		

	Overall Aircraft Operations	
	Annual	Average Daily
Air National Guard		
Percent Reduction In ANG Operations	61%	61%
Airport-wide		
Existing	146,939	403
Proposed Action	146,371	401
Percent Reduction In Airport-Wide		
Operations	0.9%	0.9%
	0.9%	0.9%

Source: SDF 2015 and FAA 2016.

Landing Zones

Long-term minor beneficial effects would be expected. These effects would be from an incremental decrease in aircraft operations at LZs, and the elimination of air operations and associated noise at the assault landing strip at Fort Knox, and Columbus, Indiana. Sources of noise at other LZs would remain consistent with mid-size airports, and the noise environment in areas surrounding these LZs would continue to be dominated by intermittent fixed-wing and rotary aircraft overflights. These effects would be less than significant.

Drop Zones

Long-term minor beneficial effects would be expected. These effects would be from the elimination of 123 AW air operations and associated noise at DZs Fort Knox DZ within Hardin County and DZs like Camp Atterbury, north of Standiford Field. These effects would be less than significant.

3.2.3.4 No Action Alternative

Under the No Action Alternative, none of the proposed activities would occur. The ANG Strategic Basing Initiative for the 123 AW would not be accomplished. Existing conditions would remain unchanged and there would be no effects to the noise environment. Notably, the ongoing net benefit to noise from the reduction in overall air operations at Standiford Field would not be realized.

3.3 HAZARDOUS MATERIALS AND WASTES

3.3.1 Definition of Resource

Hazardous materials are defined by 49 CFR 171.8 as *hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Material* (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR Part 173. Transportation of hazardous materials is regulated by the USDOT regulations within 49 CFR Parts 105 to 108.

Hazardous wastes are defined by the RCRA at 42 U.S. Code §6903(5), as amended by the Hazardous and Solid Waste Amendments, as *a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.*

Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, and the AFI 32-7000 series incorporate the requirements of all federal regulations, and other AFIs and DOD Directives for the management of hazardous materials, hazardous wastes, and special hazards. Evaluation extends to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site of a proposed action.

3.3.2 Affected Environment

The 123 AW stores and uses hazardous materials and generates and stores hazardous wastes, associated with maintenance and operation of aircraft and ground support equipment and facilities. Hazardous materials frequently used include fuel, oil, solvents, cleaners, paint, lubricants, and batteries. The 123 AW is considered a conditionally exempt small quantity generator of hazardous waste since total hazardous waste production per month is more than 220 pounds (91 kilograms) but less than 2,200 pounds (998 kilograms) per year. Hazardous waste is managed in accordance with the 123 AW Waste Management Guidance Document (Kentucky ANG 2015); and federal, state, and local regulations; and the Oil and Hazardous Substance Spill Prevention and Response Plan (Kentucky ANG 2011b). All waste generated is ultimately transported to a permitted treatment, storage, and disposal facility for disposal by an approved contractor in accordance with the 123 AW Waste Management Guidance Document.

Bulk fuel storage includes jet fuel, diesel fuel, motor gasoline, and waste fuel/oil in eight aboveground storage tanks. There are no underground storage tanks at the 123 AW (Kentucky ANG 2011b). Oil-water separators are used to separate oils, fuels, sand, and grease from wastewater and to prevent contaminants from entering the sanitary sewer and stormwater drainage systems.

The Environmental Restoration Program (ERP) was developed by the DOD to identify and address environmental contamination from past military operations. There are no ERP sites identified on the 123 AW and the installation has not had any negative environmental incidents that warranted an environmental assessment. Since the 123 AW was constructed in the early 1990s without use of asbestos and lead-based paint, there is no requirement for survey of these hazardous materials and wastes (Kentucky ANG 2011a).

3.3.3 Environmental Consequences

3.3.3.1 Significance Criteria

Effects would be considered significant if the Proposed Action would (1) substantially increase the quantity or toxicity of hazardous substances, (2) substantially increase risk to human health or the environment, or (3) generate solid waste in amounts that would appreciably decreased in capacity or life span at receiving landfills.

3.3.3.2 Proposed Action

The Proposed Action would have short- and long-term less than significant adverse effects with regard to hazardous materials and wastes. Short-term effects would be due to use of hazardous materials and generation of wastes during construction. Long-term effects would be due to use of hazardous materials and generation of wastes during mission support and the ongoing operation of the C-17 aircraft. The Proposed Action would not (1) substantially increase the quantity or toxicity of hazardous substances, (2) substantially increase risk to human health or the environment, or (3) generate solid waste in amounts that would appreciably decrease capacity or life span at receiving landfills. Implementation of existing management plans at the 123 AW would ensure safe handling of hazardous materials and wastes.

Construction Effects

The use of hazardous materials and generation of wastes at the construction areas would occur; however, the increase in construction-related hazardous materials and wastes would be both limited and temporary. The safe handling, storage, and use procedures managed under the 123 AW Waste Management Guidance Document, in accordance with all federal, state, and local regulations, would be implemented during construction. Solid wastes generated over the course of the construction period would be collected and transported offsite to a permitted landfill, or handled in accordance with the Waste Management Guidance Document. Construction debris would be recycled or reused as much as possible in accordance with the USAF Qualified Recycling Program (DOD Manual 4160.28), or would be managed in accordance with AFI 32-7042, *Waste Management*. These effects would be less than significant.

Operational Effects

The proposed aircraft conversion would require the procurement and use of hazardous materials similar to those used in support of current operations; however, additional hazardous materials would be stored and used in operational support of the C-17 as opposed to the C-130 because the C-17 is a larger aircraft. Adequate facilities exist, or are proposed as part of the conversion, to facilitate the safe storage, use and disposal of hazardous materials and wastes. The safe handling, storage, and use of hazardous materials and wastes would continue to be managed under the 123 AW Waste Management Guidance Document, in accordance with all federal, state, and local

regulations. The Proposed Action would result in less than significant adverse effects with respect to hazardous materials and wastes.

3.3.3.3 Alternative 2

Alternative 2 would have short- and long-term less than significant adverse effects to hazardous materials and wastes. The potential effects to hazardous materials and wastes under Alternative 2 would be similar in both nature and overall level as those outlined under the Proposed Action. Short-term effects would be due to use and generation of hazardous materials and wastes during construction to facilitate the KC-135 conversion. Long-term effects would be due to mission support and the ongoing operation of the KC-135 aircraft. The Proposed action would not (1) substantially increase the quantity or toxicity of hazardous substances, (2) substantially increase risk to human health or the environment, or (3) generate solid waste in amounts that would appreciably decreased in capacity or life span at receiving landfills.

3.3.3.4 No Action Alternative

Under the No Action Alternative, none of the proposed activities would occur. The Air Force Strategic Basing Initiative for the 123 AW would not be accomplished. Existing conditions would remain unchanged, and there would be no effects to hazardous material and waste.

3.4 HEALTH AND SAFETY

3.4.1 Definition of Resource

Ground safety considers issues associated with human activities, operations, and maintenance activities that support mission operations. Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and of operational practices that reduce risks of illness, injury, death, and property damage. Safety and accident hazards can often be identified and reduced or eliminated. The primary flight-safety concern is the potential for aircraft mishaps, including mid-air collisions with other aircraft or objects, weather difficulties, or bird-aircraft strikes.

AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health* (AFOSH) *Program*, implements AFPD 91-3, Occupational Safety and Health, by outlining the AFOSH Program. The purpose of the AFOSH Program is to minimize loss of USAF resources and to protect USAF personnel from occupational deaths, injuries, or illnesses by managing risks. In conjunction with the USAF Mishap Prevention Program, these standards ensure all USAF workplaces meet federal safety and health requirements.

3.4.2 Affected Environment

All proposed construction or modifications to existing facilities must respect FAA airfield criteria beyond the designated ANG property boundary, and the more stringent Air Force airfield criteria

shall be applied within the 123 AW. Runway protection zones (RPZ), designated by the FAA, extend outward from the ends of active runways at Standiford Field to delineate areas recognized as having the greatest risk of aircraft mishaps and to preclude incompatible land use activities from being established in those areas (Figure 3-3). The building restriction line establishes the closest location that buildings can be placed relative to a nearby runway or, in some cases, a primary taxiway. The apron clearance setback provides adequate physical separation between the edge of the aircraft parking apron and any fixed or mobile obstacle. The 123 AW is set far enough back from the runways so the safety areas do not impose limitations to development (Kentucky ANG 2011a).

An integral part of the Air Force planning and design process is AT/FP as provided in UFC 4-010-01, DOD *Minimum Antiterrorism Standoff Distances for Buildings*. Appropriate standoff distance must be provided from buildings to roadways, parking areas, and controlled perimeters (base boundary) to best protect personnel within. Minimum standoff distances and building separations are based on conventional construction techniques. The 123 AW incorporates AT/FP safety standards for all development (Kentucky ANG 2011a).

Bird/Wildlife Aircraft Strike Hazard (BASH) is defined as the threat of aircraft collision with birds during flight operations and is a safety concern at all operating airfields. Most birds fly close to ground level; correspondingly, more than 95 percent of all reported bird-strikes occur below 3,000 feet (914 meters) above ground level. At most military installations, about half of reported bird strikes occur in the immediate vicinity of the airfield and another 25 percent occur during low-altitude local training exercises. The 123 AW BASH Plan was updated in 2013 to minimize the BASH hazard to aircraft; 47 bird/wildlife strikes were reported between 2009 and 2013. Active wildlife deterrents are used at Louisville IAP to reduce BASH risk to the greatest extent possible (Kentucky ANG 2013a).

The Munitions Storage Area (MSA) is located along the southern edge of the 123 AW near the Fire Station, Building 200. The 360-degree explosive safety quantity-distance (ESQD) arcs have a 100-foot (30-meter) radius from the storage facilities. The ESQD arcs are fully contained within the installation and do not impose a safety threat to current or proposed facilities around the MSA (see Figure 2-2). The MSA is established and maintained in accordance with Air Force Manual (AFMAN) 91-201, *Explosives Safety Standards*.



Figure 3-3. Runway Protection Zones – Standiford Field 123 AW

3.4.3 Environmental Consequences

3.4.3.1 Significance Criteria

Health and safety effects would be considered significant if the Proposed Action would (1) substantially increase risks associated with ground safety during construction, or operations and maintenance activities, (2) substantially increase risks associated with aircraft mishap or flight safety, or (3) result in incompatible land use with regard to safety criteria.

3.4.3.2 Proposed Action

The Proposed Action would have short-term less than significant adverse effects and long-term beneficial effects to health and safety. Short-term effects would be due to potential worker injury during construction and demolition activities. Long-term beneficial effects would be due to the incremental decrease in aircraft operations at Standiford Field, and some LZs and DZs within 400 miles (645 kilometers) of the airport. Implementation of safety guidance and practices at the 123 AW would ensure health and safety during construction and operations. Effects would not (1) substantially increase risks associated with ground safety during construction, or operations and maintenance activities, (2) substantially increase risks associated with aircraft mishap or flight safety, or (3) result in incompatible land use with regard to safety criteria.

Construction Effects

The Proposed Action would introduce a less than significant health and safety risk to 123 AW personnel and contractors during construction, demolition, and renovation activities. These effects would be due to the potential for injury associated with the use of heavy equipment, bending and lifting actions, and normal construction related activities. All construction, demolition, and renovation activities would be accomplished in accordance with applicable federal, state and local health and safety regulations, including Occupational Safety and Health Administration guidelines. These guidelines include the exclusion of unauthorized personnel within construction areas, and the use of personal protective equipment and appropriate safety training. Siting of the proposed projects would be well beyond the RPZs and ESQD arcs. For these reasons, the effects to health and safety from the construction, demolition, and renovation activities would be less than significant.

Operational Effects

The Proposed Action would have long-term beneficial effects to health and safety during mission support and aircraft operations. Long-term effects would be due to the incremental decrease in aircraft operations at Standiford Field, and some LZs and DZs within 400 miles (645 kilometers) of the airport.

Approximately 520 fewer air operations per year would be flown to or from Standiford Field under the Proposed Action (Table 3-10). This would equate to an average of 1.4 fewer operations per day, a decrease of approximately 56 percent when compared to existing C-130 operations and a decrease of approximately one percent when compared to existing airport-wide operations. In addition, air operations at near-by DZs, assault landing strips, and low-level route would decrease or be eliminated with the conversion to the C-17. The decrease in airport-wide operations would be so small it would have no perceptible effect on the potential for aircraft mishaps at the airport, but the decrease in ANG operations at the airport, near-by DZs, assault landing strips, and lowlevel route would have an appreciable beneficial effect on in-flight safety issues for the 123 AW. Similarly, this decrease in near-ground air operations would have an incremental beneficial effect on BASH-related issues at the airport, and an appreciable beneficial effect on BASH-related issues for the 123 AW.

Although the overall effects would be beneficial, the aircraft conversion would be supported with operational requirements, properly sited facilities, adequate space, and a modernized supporting infrastructure that would enhance ground and flight safety. All aircraft operations associated with the 123 AW would continue to take place within existing FAA-designated controlled airspace. Aircraft operations would continue to be performed in accordance with flight safety standards at the 123 AW.

3.4.3.3 Alternative 2

Alternative 2 would have short-term less than significant adverse and long-term beneficial effects to health and safety. The effects to health and safety under Alternative 2 would be similar in nature and overall level as those outlined under the Proposed Action. Short-term effects would be identical to those outlined under the Proposed Action. Long-term beneficial effects would be due to the incremental decrease in aircraft operations at Standiford Field, and some LZs and DZs within 400 miles (645 kilometers) of the airport. Effects would not (1) substantially increase risks associated with ground safety considers during construction, or operations and maintenance activities, (2) substantially increase risks associated with aircraft mishap or flight safety, or (3) result in incompatible land use with regard to safety criteria. BMPs would be identical to those outlined under the Proposed Action.

Approximately 568 fewer air operations per year would be flown to or from Standiford field under Alternative 2. This would equate to an average of 1.6 less operations per day, equating to a decrease of approximately 61 percent when compared to existing C-130 operations, and a decrease of less than one percent when compared to existing airport-wide operations. In addition, 123 AW-sponsored air operations at near-by DZs and low-level routes would be eliminated with the conversion to the KC-135. The decrease in airport-wide operations would be so small it would have no perceptible effect on the potential for aircraft mishaps at the airport, but the decrease in ANG operations at the airport, near-by drop zones and low-level route would have an appreciable beneficial effect on in-flight safety issues for the 123 AW. Similarly, this decrease in near-ground

air operations would have an incremental beneficial effect on BASH-related issues at the airport, and an appreciable beneficial effect on BASH-related issues for the 123 AW.

3.4.3.4 No Action Alternative

Under the No Action Alternative, none of the proposed activities would occur. The Air Force Strategic Basing Initiative for the 123 AW would not be accomplished. Existing conditions would remain unchanged, and there would be no effects to health and safety. Notably, the ongoing net benefit to safety from the reduction in overall air operations at Standiford Field would not be realized.

3.5 WATER RESOURCES

3.5.1 Definition of Resource

Water resources include groundwater, surface water, wetlands, and waters of the U.S. Hydrology concerns the distribution of water through the processes of evapotranspiration, atmospheric transport, precipitation, surface runoff and flow, and subsurface flow.

Groundwater. Groundwater is water that exists in the saturated zone beneath the earth's surface and includes underground streams and aquifers. It is an essential resource that functions to recharge surface water and is used for drinking, irrigation, and industrial processes. Groundwater features include depth from the surface, aquifer or well capacity, quality, recharge rate, and surrounding geologic formations.

Surface Water. Surface water generally consists of lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale. Waters of the U.S. are defined within the CWA, as amended, and jurisdiction is addressed by the USEPA and the USACE (33 CFR Part 328). Section 401 of the CWA requires that any applicant for a federal license or permit to conduct an activity that could result in a discharge into waters of the U.S. provide the permitting agency a certification from the state in which the discharge originates certifying that the license or permit complies with CWA requirements, including applicable state water quality standards.

Wetlands. Wetlands are identified as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The USACE regulates the discharge of dredged or fill material into waters and wetlands of the United States pursuant to Section 404 of the CWA. Notably, Section 401 of the CWA also applies to wetlands.

Floodplains. Floodplains are areas of low-level ground present along rivers, stream channels, or coastal waters subject to periodic or infrequent inundation due to rain or melting snow. Risk of

flooding typically depends on local topography, the frequency of precipitation events, and the size of the watershed above the floodplain. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain as an area that has a one percent chance of inundation by a flood event in any given year. Federal, state, and local regulations often limit floodplain development to passive uses such as recreational and preservation activities to reduce the risks to human health and safety. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, nutrient cycling, water quality maintenance, and diversification of plants and animals.

AFI 32-1021, *Planning and Programming Military Construction Projects* and EO 11988 *Floodplain Management* provides policy and requirements to avoid construction of new facilities within the 100-year floodplain, where practicable. In accordance with EO 11988, a Finding of No Practicable Alternative must be prepared and approved by ANG for all projects affecting floodplain areas.

3.5.2 Affected Environment

The 123 AW is approximately 6 miles (10 kilometers) south of the Ohio River in the Salt River Basin Watershed Management Unit and Northern Ditch Watershed. Surface water runoff primarily discharges into a drainage basin south of the installation and then to the Louisville storm water sewers. Stormwater runoff at Standiford Field is controlled by open drainage channels and underground storm drains. The stormwater infrastructure is adequately sized and designed to accommodate anticipated future development (Kentucky ANG 2011a). The 123 AW maintains National Pollutant Discharge Elimination System outfalls for stormwater discharge in accordance with USEPA regulations in 40 CFR 122 and KDEP, Division of Water, Title 401 Kentucky Administrative Regulation Chapter 5. The Storm Water Best Management Practices Plan (Kentucky ANG 2012) provides guidance on stormwater management.

Depth to groundwater is at approximately 6 feet (10 kilometers) below ground surface. The Groundwater Protection Plan identifies activities that have the potential to pollute groundwater and selected practices to protect groundwater from pollution Kentucky ANG 2013b). There are no natural bodies of water on the 123 AW. There are no wetlands on the installation. The 123 AW is not within the FEMA-designated 100-year floodplain (Kentucky ANG 2011a).

3.5.3 Environmental Consequences

3.5.3.1 Significance Criteria

Water resources effects would be considered significant if construction activities would reduce water availability or supply, exceed safe annual yield of water supplies, adversely affect water quality, threaten or damage hydrology, or violate water resources laws or regulations.

3.5.3.2 Proposed Action

The Proposed Action would have short- and long-term less than significant adverse effects to water resources. Short-term effects would be due to site-specific temporary changes in surface hydrology, and the potential for soil erosion and transport during construction. Long-term effects would be due to an incremental increase in impervious surfaces at the base. Effects to water resources would not reduce water availability or supply, exceed safe annual yield of water supplies, adversely affect water quality, threaten or damage hydrology, or violate water resources laws or regulations.

Construction Effects

Construction, renovation, and demolition activities would have site-specific temporary effects on water resources. Construction activities, including grading, clearing, and excavation would result in ground surface disturbance and could cause soil erosion and subsequent transport of sediment into surface drainage ditches via stormwater. The depth of excavation during construction would generally not reach the depth of groundwater; therefore, groundwater would be unaffected by then proposed activities. These effects would be less than significant. Although the effects would be less than significant, BMPs would be incorporated into all construction and demolition activities to minimize erosion, runoff, and sedimentation. Implementing erosion and sediment control BMPs during construction would minimize any adverse effects on surface waters. BMPs could include silt fencing, sediment traps, applying water sprays for dust control, and revegetating disturbed areas. Potential impacts to surface water would further be avoided or minimized by incorporating low-impact development techniques into construction projects, in accordance with the Energy Independence and Security Act Title IV § 438, UFC 3-210-10, and EO 13693. In the event of a petroleum or chemical spill during construction, the installation's Oil and Hazardous Substances Spill Prevention and Response Plan would be followed to contain and clean up a spill as effectively as possible.

Operational Effects

Regional water supply is abundant and has sufficient capacity to meet current and anticipated demands at the 123 AW (Kentucky ANG 2011a). None of the proposed facilities or improvements would be an appreciable water user or wastewater generator. Projects would occur within the previously developed portion of the installation and would not affect wetlands or FEMA-designated 100-year floodplains; therefore, no effects to floodplains or wetlands would occur.

The proposed construction sites would occur on existing impervious surfaces at the base or on nearby previously developed land. There would be a slight incremental increase in impervious surfaces on the installation. However, stormwater collection features would be incorporated into the project designs to ensure safe and efficient stormwater management. Any additional runoff would be incorporated into the installation's existing storm drainage system, which is capable of accommodating increased flows. These effects would be less than significant.

There would be an incremental increase in aircraft maintenance and fueling operations and an associated increase in the potential for petroleum or chemical spill at the base. In the event of a petroleum or chemical spill, the installation's Oil and Hazardous Substances Spill Prevention and Response Plan would be followed to contain and clean up a spill as effectively as possible. Aircraft operations in-and-of-themselves would have negligible potential to affect water availability, water quality, or adherence to applicable regulations. These effects would be less than significant.

3.5.3.3 Alternative 2

Alternative 2 would have short- and long-term less than significant adverse effects to water resources. The potential effects to water resources under Alternative 2 would be similar in nature and overall level as those outlined under the Proposed Action. Short-term effects would be due to site-specific temporary changes in surface hydrology and the potential for soil erosion and transport during construction. Long-term effects would be due to an incremental increase in impermeable surfaces at the base. Alternative 2 would not reduce water availability or supply, exceed safe annual yield of water supplies, adversely affect water quality, threaten or damage hydrology, or violate water resources laws or regulations. BMP's would be identical to those outlined under the Proposed Action.

3.5.3.4 No Action Alternative

Under the No Action Alternative, none of the proposed activities would occur. The Air Force Strategic Basing Initiative for the 123 AW would not be accomplished. Existing conditions would remain unchanged and there would be no effects to water resources.

3.6 COMPARISON OF ENVIRONMENTAL EFFECTS

Table 3-11 provides a comparison of environmental effects of the Proposed Action and alternatives on these environmental resources. Overall, conversion to C-17 aircraft under Alternative 1 (Proposed Action) or KC-135 aircraft under Alternative 2 would result in short- and long-term less than significant effects. The No Action Alternative represents a continuation of the current mission at the 123 AW using the existing primary assigned aircraft C-130 and existing facilities and would have no effects.

	Alternative 1	Alternative 2	No Action	
Resource Area	C-17 Conversion	KC-135 Conversion	Alternative	
Air Quality	Short- and long-term	Short- and long-term	No effects	
	less than significant effects	less than significant effects		
	Short-term	Short-term	No effects	
Noise	less than significant effects	less than significant effects		

Table 3-11. Comparison of Environmental Effects

	Alternative 1	Alternative 2	No Action
Resource Area	C-17 Conversion	KC-135 Conversion	Alternative
	Long-term beneficial effects	Long-term beneficial effects	
Hazardous	Short- and long-term	Short- and long-term	No effects
Materials and	less than significant effects	less than significant effects	
Waste			
	Short-term	Short-term	No effects
Health and Safety	less than significant effects	less than significant effects	
	Long-term beneficial effects	Long-term beneficial effects	
Water Resources	Short- and long-term	Short- and long-term	No effects
	less than significant effects	less than significant effects	

4.0 CUMULATIVE EFFECTS

Cumulative effects on environmental resources result from the incremental effects of an action when combined with other past, present, and reasonably foreseeable future projects in the area (40 CFR § 1508.7). Cumulative effects can result from individually minor but collectively substantial, actions taken over a period of time. In accordance with NEPA, a discussion of cumulative effects that could result from projects that are proposed in the foreseeable future is required (CEQ 1997). This section provides a description of past, present and reasonably foreseeable actions in the area, and evaluation of potentials cumulative effects.

4.1 PROJECTS IN THE VICINITY OF THE 123 AW

The IDP primarily comprises projects planned by the Kentucky ANG to mitigate space deficiencies and modernize facilities for the 123 AW. Planned activities include minor infrastructure improvements and facility repair and upgrade. The most substantial planned future improvement at the 123 AW includes the realignment of Grade Lane and replacement of the entry control gate. Grade Lane is a city-owned road that bisects the installation, which presents significant safety concerns for personnel traveling between the two base parcels and introduces AT/FP security risks. Realignment of Grade Lane will unify the two base parcels, improve transportation and circulation, and allow construction of a main gate that complies with AT/FP security standards. Relocation of Grade Lane will require land acquisition from the Kentucky Transportation Cabinet and permits from both the Federal Highway Administration and City of Louisville. The future land use plan is based on sound land use planning practices, including minimizing problems that may arise due to adjacent incompatible land uses and maximizing functional efficiency of all operations. (Kentucky ANG 2011a).

Louisville IAP serves as the region's economic engine with an average of 90 scheduled passenger flights per day and is served by 18 major/national and regional/commuter airlines. Louisville IAP is the primary air cargo hub for United Parcel Service, with more than 115 flights per day. Louisville IAP has more than \$127 million in Capital and Major Maintenance projects programmed through 2020. Some of the key current and future projects are rehabilitating select areas of the airfield, airfield geometry reconfiguring (including new taxiways), Runway 11-29 (crosswind runway) Runway Safety Area, terminal renovating, and replacing the Woodlawn Overpass. The west parallel taxiway (Taxiway Alpha) adjacent to the West Parallel Runway was completed in 2014 and, at almost 2 miles long and 100 feet wide, can accommodate the largest and newest long-range commercial aircraft. All construction will take place on Standiford airfield in accordance with the Louisville IAP Master Plan (Louisville Regional Airport Authority 2016).

A goal of the Louisville's Cornerstone 2020 Comprehensive Plan (Louisville Planning Commission 2016) is to promote continued development and investment in the Louisville IAP to increase and enhance air transportation service. The Plan policies include utilization of industrial

sites near airports for only those industries whose transportation and production needs require such a location or for those industries which support airport-oriented industries.

4.2 CUMULATIVE EFFECTS ANALYSIS

Although the exact timing of the construction projects and the real property transactions described above may vary, the potential exists for cumulative environmental impacts to occur with regard to resources evaluated in this EA. The following resource analyses address potential effects associated with the relevant cumulative project goals and initiatives identified above in addition to the projects analyzed under the Proposed Action.

Air Quality

The State of Kentucky takes into account the effects of all past, present, and reasonably foreseeable emissions during the development of the State Implementation Plan. The state accounts for all significant stationary, area, and mobile emission sources in the development of this plan. Estimated emissions generated by the Proposed Action would be *de minimis* and it is understood that activities of this limited size and nature would not contribute appreciably to adverse cumulative effects to air quality. No past, present, or reasonably foreseeable projects have been identified, including those outlined in Section 4.1, that when combined with the Proposed Action, would have substantial cumulative effects to air quality. Therefore, cumulative effects to air quality would be less than significant.

Noise

The Proposed Action would have short- and long-term less than significant adverse effects. Shortterm effects would be due to use of heavy equipment during construction. Long-term effects would be due to the incremental decrease in aircraft operations at Standiford Field, and some LZs and DZs within 400 miles (645 kilometers) of the airport. Other construction at Louisville IAP may be concurrent with construction at the 123 AW, but the effects would be short-term, contained within the airfield operating area, and less than significant. Aircraft operations at the 123 AW would decrease as a result of the Proposed Action and would not have cumulative noise effects. No past, present, or reasonably foreseeable projects have been identified, including those outlined in Section 4.1, that when combined with the Proposed Action, would have substantial cumulative effects to the noise environment. Therefore, cumulative effects to the noise environment would be less than significant.

Hazardous Materials and Wastes

Minor cumulative adverse effects to hazardous materials and wastes could occur at Standiford Field as a result of temporary increase in the storage, use, or generation of hazardous materials and wastes from the potential for overlapping construction projects at the Louisville IAP and the 123 AW. For all cumulative construction activities, the use and disposal of hazardous materials and

wastes would be handled in accordance with appropriate federal, state and local regulations. No past, present, or reasonably foreseeable projects have been identified, including those outlined in Section 4.1, that when combined with the Proposed Action, would have substantial cumulative effects to hazardous materials and wastes. Therefore, cumulative effects to hazardous materials and wastes would be less than significant.

Health and Safety

The project initiatives and goals identified in the Louisville IAP Master Plan and Louisville Planning Commission's Cornerstone 2020 Comprehensive plan contribute to a further modernized airport facility and have been developed to maintain consistency with surrounding land uses, promote safety of airport operations, and incorporate public health and safety into all aspects of planning. The associated changes in aircraft operations at Standiford Field could potentially affect aircraft mishap potential and BASH. However, because there are no proposed increases in aircraft operations at the 123 AW, the Proposed Action would not constitute a significant contribution to these effects. In addition, there would be no incompatible land uses with regard to safety criteria such as ESQD arcs or AT/FP setbacks with any of the projects identified. No past, present, or reasonably foreseeable projects have been identified, including those outlined in Section 4.1, that when combined with the Proposed Action, would have substantial cumulative effects to health and safety. Therefore, cumulative effects to health and safety would be less than significant.

Water Resources

Minor cumulative adverse effects to water resources could occur at Standiford Field because of the potential increase in impermeable surfaces. However, all projects planned at Standiford Field would be required to obtain permits, develop and implement project specific plans (e.g., Stormwater Pollution Prevention Plan), and adhere to all applicable permitting regulations, EOs, and BMPs to minimize potential effects to water resources. The Louisville IAP Master Plan includes drainage improvements to minimize stormwater runoff. Louisville's 2020 Comprehensive Plan incorporates stormwater protection measures in all plan elements. No past, present, or reasonably foreseeable projects have been identified, including those outlined in Section 4.1, that when combined with the Proposed Action, would have substantial cumulative effects to water resources. Therefore, cumulative effects to water resources would be less than significant.

Page intentionally left blank

5.0 MANAGEMENT ACTIONS / SPECIAL PROCEDURES

This section summarizes special operating procedures associated with this EA. Evaluations contained in this EA have determined that no significant environmental effects would result from implementation of the Proposed Action or Alternative 2 at the 123 AW; therefore, no mitigation is required. This determination is based on thorough review and analysis of existing resource information, coordination with installation personnel, and relevant agency coordination.

Special operating procedures are defined as measures that would be implemented to address minor potential environmental effects associated with implementation of the Proposed Action. In addition to the environmental protection measures described in this EA and standard BMPs such as implementation of control measures for reducing fugitive dust emissions, engineering and site development to account for soil constraints, conforming to all federal, state, and local requirements related to stormwater pollution prevention during construction activities, and safe removal of any potentially hazardous materials prior to initiating demolition activities, the following special procedures would be implemented as part of the Proposed Action:

Cultural Resources. In the event that an inadvertent discovery of cultural artifacts occurs from ground disturbance, activity in the immediate vicinity would cease until an assessment of the materials can be made. The ground disturbance operator would notify the ANG unit commander/supervisor immediately to contact the ANG environmental manager for specific actions to protect and properly treat any materials that are discovered.

Page intentionally left blank

6.0 REFERENCES

- American National Standard Institute (ANSI). 2013. American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound. Part 3: Short-term measurements with an observer present. ANSI S12.9-1993 (R2003)/Part 3.
- Council on Environmental Quality (CEQ). 1997. Considering Cumulative Effects under the National Environmental Policy Act. January 1997.
- Council on Environmental Quality (CEQ). 2005. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. Council on Environmental Quality Executive Office of the President. 40 CFR Parts 1500-1508.
- Council on Environmental Quality (CEQ). 2014. Memorandum for Heads of Federal Departments and Agencies on Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. URL:https://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance.
- Department of Defense (DOD). 2012. Unified Facilities Criteria (UFC) DoD Minimum Antiterrorism Standards for Buildings. Issued 9 February 2012. Available online: http://www.wbdg.org/ccb/DOD/UFC/ufc_4_010_01.pdf>.
- Department of Defense (DOD). 2014. Strategic Sustainability Performance Plan FY 2014. Available online: http://www.denix.osd.mil/sustainability/upload/DoD-SSPP-FY14-FINAL-w_CCAR.pdf.
- Department of Defense (DOD). 2015. Unified Facilities Criteria (UFC) 3-210-10. Low Impact Development Manual.
- FAA (Federal Aviation Association). 2016. Airport Master Record. Louisville International Airport February 2016. Available online : < http://www.gcr1.com/5010web/airport.cfm?Site=SDF&CFID=14495325&CFTOKEN=9 7737242>.
- Harris, C.M. 1998. Handbook of Acoustical Measurement and Noise Control. Acoustical Society of America. Sewickley, PA.
- Intergovernmental Panel on Climate Change (IPCC). 2014. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom, 1000 pp. Available online: ">http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1>.
- Kentucky Air National Guard (ANG). 2010. Cultural Resources Survey. 123rd Airlift Wing Kentucky Air National Guard. Louisville, Jefferson County, KY.
- Kentucky Air National Guard (ANG). 2011a. Installation Development Plan. 123rd Airlift Wing Kentucky Air National Guard. Louisville International Airport, Louisville KY.

- Kentucky Air National Guard (ANG). 2011b. Oil and Hazardous Substances Spill Prevention and Response Plan. 123rd Airlift Wing Kentucky Air National Guard. Louisville International Airport, Louisville KY.
- Kentucky Air National Guard (ANG). 2012. Storm Water Best Management Practices Plan. Kentucky Air National Guard, 123rd Airlift Wing. Louisville International Airport, Louisville KY.
- Kentucky Air National Guard (ANG). 2013a. Bird/Wildlife Aircraft Strike Hazard (BASH) Plan. 123rd Airlift Wing Kentucky Air National Guard. Louisville International Airport, Louisville KY.
- Kentucky Air National Guard (ANG). 2013b. Groundwater Protection Plan. Kentucky Air National Guard, 123rd Airlift Wing. Louisville International Airport, Louisville KY.
- Kentucky Air National Guard (ANG). 2015. Waste Management Guidance Document. 123rd Airlift Wing Kentucky Air National Guard. Louisville International Airport, Louisville KY.
- Louisville Planning Commission. 2016. Cornerstone 2020 Comprehensive Plan. Louisville and Jefferson County, KY. Available online at: https://louisvilleky.gov/sites/default/files/planning_design/general/c2020finalversionwith graphics.pdf.
- Louisville Regional Airport Authority. 2016. Airport Improvements. Available online at: http://www.flylouisville.com/about-the-airport/airport-improvements/.
- U.S. Air Force (USAF). 1998. Land Use Planning. Air Force Pamphlet 32-1010 (AFPAM32-1010). 1 November 1998. Available online: http://www.epublishing.af.mil/shared/media/epubs/AFPAM32-1010.pdf>.
- U.S. Air Force (USAF). 2002. SELCalc Flyover Noise Calculator.
- U.S. Air Force (USAF). 2010. Strategic Basing. Air Force Instruction 10-503. Secretary of the Air Force. 27 September 2010.
- U.S. Air Force (USAF). 2013a. Air Conformity Applicability Model (ACAM).
- U.S. Air Force (USAF). 2013b. Occupational Safety and Health Standard 48-20. May 10, 2013. Occupational Noise Hearing Conservation Program. Available online: http://static.e-publishing.af.mil/production/1/af_sg/publication/afoshstd48-20/afoshstd48-20.pdf>.
- U.S. Air Force (USAF). 2015. Air Installations Compatible Use Zones Program. Air Force Instruction AFI 32-7063. Secretary of the Air Force. 18 December 2015.
- U.S. Bureau of Economic Analysis. 2014. BEARFACTS. Personal Income for Louisville/Jefferson County Metropolitan Area. Available online: http://www.bea.gov/REGIONAL/bearfacts/action.cfm?geoType=5&fips=31140&areatyp e=MSA.

- United States Census Bureau. 2014. State & County QuickFacts. Louisville/Jefferson County Metropolitan Area. Available at: http://www.census.gov/quickfacts/table/PST040214/2148006.
- U.S. Environmental Protection Agency (USEPA). 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. Washington, DC: s.n., Publication NTID300.1. Available online: <http://www.co.marin.ca.us/depts/cd/main/pdf/eir/Big%20Rock/Suplimentals/13.%20EP A%201971%20-%20Noise%20from%20Construction%20Equipment_Operations_Building-Equip_Home-Appliances.pdf>.
- U.S. Environmental Protection Agency (USEPA). 2016a. Attainment Status. Available online: http://www.epa.gov/airquality/greenbook/anay_nc.html.
- U.S. Environmental Protection Agency (USEPA). 2016b. AirData Web Site. Available online: http://www.epa.gov/airdata/ad_rep_con.html.
- U.S. Environmental Protection Agency (USEPA). 2016c. Climate Change Health and Environmental Effects. Available online: http://epa.gov/climatechange/index.html>.

Page intentionally left blank
7.0 LIST OF PREPARERS

Joseph J. Campo, Senior Environmental Scientist, Tetra Tech Inc. *Project Manager* PhD, Wildlife Ecology M.S., Wildlife Ecology B.S., Forestry Years of Experience: 24

James Cook, Biologist II, Tetra Tech, Inc. Land Use and Biological Resources M.S., Environmental Science B.S., Biology Years of Experience: 5

Melissa Cushing, Environmental Scientist III, Tetra Tech, Inc. *GIS/Geologic and Socioeconomic Resources*M.S., Environmental HealthB.S., GeologyYears of Experience: 13

Emily Foster, Biologist II, Tetra Tech, Inc. *Water Resources and Biological Resources* M.S., Environmental Science B.S., Biology Years of Experience: 5

Beverly Keys, Administrative Assistant, Tetra Tech Inc.Administrative RecordB.A.S, Business AdministrationYears of Experience: 17

Tim Lavallee, P.E., Senior Engineer, LPES, Inc. Air Quality, Noise, and Transportation M.S., Civil and Environmental Engineering B.S., Mechanical Engineering Years of Experience: 25

Kristin Shields, Director-DOD NEPA, Tetra Tech, Inc. *NEPA Peer Review* B.A., Environmental Science Years of Experience: 25 Page intentionally left blank

APPENDIX A

IICEP CORRESPONDENCE



<Date>

<insert recipient> address address address address address

Dear <insert recipient>,

The National Guard Bureau (NGB) is preparing an Environmental Assessment (EA) for Beddown of C-17 or KC-135 and the associated construction projects at the 123rd Airlift Wing (AW), Kentucky Air National Guard, Standiford Field, Louisville, KY. Pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 *United States Code* [USC] 4321–4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 *Code of Federal Regulations* [CFR] Sections 1500–1508), and 32 CFR Part 989, *et seq.*, the NGB will prepare an EA that considers the potential consequences to human health and the natural environment.

The EA will examine the effects of the proposed projects and will include analysis of the required no-action alternative. In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we are writing this letter to advise you of this effort and request your assistance in identifying any potential issues related to the proposal.

An attachment to this letter describes each project being analyzed in the EA Also enclosed is a copy of the distribution list for those agencies and organizations to be contacted regarding this EA. If you consider any additional agencies should review and comment on this proposal, please feel free to include them in a re-distribution of this letter and the attached materials.

The 123rd AW shares air support facilities (e.g., runways) with Louisville International Airport. The development of the installation and the municipal airport has removed much of the historic, native vegetative cover and replaced it with non-native landscaping to minimize bird aircraft strike hazards. Vegetation at the airport consists primarily of mowed turf grass and ornamental maintained landscaping. The 2011Installation Development Plan reported that wildlife species found on the installation are mostly limited to those that have adapted to high levels of human activity and disturbance. In addition, the IDP reported that there are no documented populations of threatened or endangered species and that critical habitat is not present at the 123rd AW. The NGB would coordinate under the U.S. Fish and Wildlife Service and Kentucky Department of Fish and wildlife to avoid potential impacts to biological resources.

Louisville IAP has experienced extensive disturbance during the development and renovation of the airfield and support facilities. In 2010, an intensive Phase I archaeological survey was conducted at designated areas within the 123rd AW to identify and determine the significance of any cultural resources. Results of the survey indicated no evidence of subsurface features, artifacts, or other intact cultural deposits and no archeological sites were recorded. Additionally, an architectural inventory was conducted at the 123rd AW to evaluate the potential structures eligible for nomination to the National Register of Historic Places (NHRP). Structures were not recommended as eligible for listing on the NRHP, as they were less than 50 years of age and were lacking in historical and architectural significance. The NGB would coordinate with the State Historic Preservation Office to avoid potential impacts to cultural resources.

NGB intends to maximize the use of electronic transmittals during subsequent coordination phases of this project. If you would prefer to receive a hard copy of the Draft and Final EA documents, please indicate this in your response. If not, the Draft EA will be provided in an electronic format when it becomes available. Please provide any comments you may have within 30 days of receipt of this letter.

If you have any questions concerning the proposal, please contact me at (240) 612-8855. Please forward your written comments to National Guard Bureau, Asset Management Division, Attn: Kevin Marerk, NGB/A7AM, Shepperd Hall, 3501 Fetchet Ave., Joint Base Andrews, MD, 20762-5157, or email to Kevin.Marek@ang.af.mil. Thank you for your assistance.

Sincerely,

KEVIN MAREK, REM Environmental Specialist Requirements Branch

Attachment: Description of Proposed Action

Scoping Letter Distribution List

IICEP Distribution List – 123rd (AW) Standiford Field, Kentucky Air National Guard, Louisville, KY

Honorable Mitch McConnell	Congressman John Yarmuth
U.S. Senate	Roano Mazzoli Federal Building
601 West Broadway, Rom 630	600 Martin Luther King, Jr. Place, Suite 216
Louisville, KY 40202	Louisville, KY 40202
Rob Thorne, Manager	Emily Liu, Director
Division of Envrionmental Support	Louisville Metro Department of Planning and
300 Fair Oaks Lane	Design
Frankfort, KY 40601	444 S. 5 th Street
	Louisville, KY 40202
Vanessa D. Burns, Director	Phillip C. Bills
Louisville Public Works Department	Louisville Planning & Design Services
444 S. 5 th Street	444 South Fifth St., Suite 300
Louisville, KY 40202	Louisville, KY 40202
Lindy Casebier	Daniel M. Ashe, Director
Kentucky Heritage Council	U.S. Fish & Wildlife Service
300 Washington St.	600 Dr. Martin Luther King Jr. Pl., #188
Frankfort, KY 40601	Louisville, KY 40202
James Gruhala	Anshu Singh
Fish & Wildlife Biologist	Kentucky Department for
U.S. Fish & Wildlife Service	Environmental Protection
KY Ecological Services Field Office	Division of Water
330 West Broadway, Room 265	200 Fair Oaks Lane, 4th Floor
Frankfort, KY 40601	Frankfort, KY 40601
Craig Potts, Preservation Officer	Kelly Bibb
State Historic Preservation	U.S. Fish and Wildlife Service
444 S. 5 th Street	Southeast Region
Louisville, KY 40202	1875 Century Blvd., Suite 400
	Atlanta, GA 30345
Dr. Sarah S. Moyer, Director	Duane Johnson, Team Lead
Louisville Metro Dept. Public Health &	Federal Aviation Administration
Wellness	FAA Memphis ADO
400 E. Gray Street	2600Thousand Oaks Blvd. Ste 2250
Louisville, KY 40202	Memphis, TN38118
Miles Houdin	
Wilke Hardin	
Kennucky Department of	
FISH and Wildlife	
I Game Farm Road	
Frankfort, KY 40601	

Heinz Mueller	Mike Turner
U.S. EPA Region 4	U.S. Army Corps of Engineers
Atlanta Federal Center	Romano Mazzoli Federal Bldg.
61 Forsyth St., SW	600 Dr. Martin Luther King, Jr. Place
Atlanta, GA 30303	Louisville, KY 40202
	,
John Lyons	Sarah Gaddis, Regional Manager
Kentucky Department for	Louisville Division of Water
Environmental Protection	200 Fair Oaks Lane, 4 th Floor
Division for Air Quality	Frankfort, KY 40601
200 Fair Oaks Lane, 1st Floor	
Frankfort, KY 40601	
Eric Eisiminger, Regional Manager	Mr. Brian J. Sinnwell
Louisville Air Quality	Louisville Regional Airport Authority
200 Fair Oaks Lane	P.O. Box 9219
Frankfort, KY 40601	Louisville, KY 40209-0129
George Gilbert	Governor Matt Bevin
Kentucky Department for	700 Capitol Avenue, Suite 132
Environmental Protection	Frankfort, KY 40601
Division of Waste Management	
200 Fair Oaks Lane, 2nd Floor	
Frankfort, KY 40601	
Chief Bill John Baker	Jason Lambert
Cherokee Nation	Eastern Band of the Cherokee Tribe
110 N. Elm Street	P.O. Box 455
Sallisaw, OK 74955	Cherokee, NC 28719
Shawnee Tribe of Oklahoma	Absentee Shawnee
P.O. Box 189	2025 South Gordon Cooper
29 S. Hwy 69A	Shawnee, OK 74801
Miami, OK 74355	
Eastern Band of the Shawnee	The Chickasaw Nation of Oklahoma
12755 S. 705 Road	P.O. Box 1548
Wyandotte, OK 74370	Ada, OK 74821
United Keetoowah Band of Cherokee Indians	Tim Kent, Environmental Director
P.O. Box 746	Quapaw the Kentucky Heritage of Oklahoma
Tahlequah, OK 74465	5681 S. 630 Road
	P.O. Box 765
	Quapaw, OK 74363

Public availability of Draft EA: James L. Blanton, Director Main Library, 301 York St., Louisville, KY 40203



MATTHEW G. BEVIN GOVERNOR

DON PARKINSON SECRETARY

TOURISM, ARTS AND HERITAGE CABINET KENTUCKY HERITAGE COUNCIL THE STATE HISTORIC PRESERVATION OFFICE

300 WASHINGTON STREET FRANKFORT, KENTUCKY 40601 PHONE (502) 564-7005 FAX (502) 564-5820 www.heritage.ky.gov REGINA STIVERS DEPUTY SECRETARY

CRAIG A. POTTS EXECUTIVE DIRECTOR & STATE HISTORIC PRESERVATION OFFICER

April 29, 2016

Kevin Marek Environmental Specialist National Guard Bureau, Asset Management Division NGB/A7AM Sheppard Hall 3501 Fetchet Ave. Joint Base Andrews, MD, 20762-5157

Re: EA for Beddown of C-17 or KC-135 and the associated construction projects at the 123rd Airlift Wing, Kentucky Air National Guard, Standiford Field, Louisville, KY

Dear Mr. Marek:

Thank you for the additional information concerning the above referenced project. Based on the information provided and our review of the application, an archaeological or cultural historic survey should not be necessary for the proposed project area.

Should the project plans change, or should additional information become available regarding cultural resources or citizens' concerns regarding impacts to cultural resources, please submit that information to our office as additional consultation may be warranted.

In the event that human remains are encountered during project activities, all work should be immediately stopped in the area and the area cordoned off, and in accordance with KRS 72.020 the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to the Kentucky Heritage Council and the Kentucky Office of State Archaeology in the Anthropology Department at the University of Kentucky.

Should you have any questions, feel free to contact Nick Laracuente of my staff at 502.564.7005, extension 122.

Sincerely,

Craig A. Potts, Executive Director and State Historic Preservation Officer

CP:nrl KHC #46758

#Preservation50: Commemorating the 50th anniversary of the National Historic Preservation Act and the Kentucky Heritage Council 1966-2016

KentuckyUnbridledSpirit.com



An Equal Opportunity Employer M/F/D



ENERGY AND ENVIRONMENT CABINET

Matt Bevin Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION 300 FAIR OAKS LANE FRANKFORT, KENTUCKY 40601 PHONE (502) 564-2150 FAX (502) 564-4245 www.dep.ky.gov Charles G. Snavely Secretary

> R. Bruce Scott Commissioner

April 11, 2016

National Guard Bureau Asset Management Division Attn: Kevin Marerk NGB/A7AM Shepperd Hall 3501 Fetchet Ave. Joint Base Andrews, MD 20762-5157

Re: SERO 2016-05 Standiford Field, Louisville, KY – Draft Environmental Impact Statement

Mr. Marek,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

We received your correspondence dated March 11, 2016. Your letter requested the department's assistance in providing information relative to the Standiford Field, Louisville, KY expansion by the Kentucky Air National Guard. The following comments are submitted in reference to this project.

Comments from the Division of Water:

There are no Outstanding State Resource Waters, Wild Rivers or known Exceptional Waters within the project area. Best management practices shall be utilized to reduce runoff from the project into adjacent surface waters



There are no permits or formal approvals required from Floodplain Permitting, Water Withdrawal Permitting or Water Management Planning.

Many activities involved in the construction phase and daily operation of the facilities proposed may require a Groundwater Protection Plan (GPP) to be prepared and implemented. It is advised to review regulation 401 KAR 5:037 concerning the need for GPP activities that have the potential to contaminate groundwater systems. Submission of the GPP to the Cabinet is not required unless requested by the Cabinet.

There should not be much of an issue at this time. The stormwater outfalls will remain the same, so there will be no change to the Kentucky Pollution Discharge Elimination System permit. They may need to modify their Best Management Practices to account for the new design if/when it happens.

Comments from the Division of Waste Management:

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered, they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

<u>Comments from the Division of Air Quality:</u>

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the <u>Fugitive Emissions Fact Sheet</u>.

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the <u>Open Burning Brochure</u>.

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

§ Utilize alternatively fueled equipment.

§ Utilize other emission controls that are applicable to your equipment.

§ Reduce idling time on equipment.

This review is based upon the information that was provided by the applicant. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

If you should have any questions, please contact me at (502) 564-2150, ext. 3125.

Sincerely,

Ronald T Price

Ronald T. Price State Environmental Review Officer Kentucky Department for Environmental Protection

EPA Response

-----Original Message-----

From: Gissentanna, Larry [mailto:Gissentanna.Larry@epa.gov]
Sent: Thursday, March 31, 2016 5:09 PM
To: kevin.marek@ang.af.mil
Cc: Militscher, Chris; Buskey, Traci P.
Subject: National Guard Bureau Environmental Assessment for the Beddown of C-17 or KC-135

NATIONAL GUARD BUREAU Asset Management Division Attn: Kevin Marek NGB/A7AM Shepperd Hall 3501 Fetchet Avenue Joint Base Andrews, MD 20762-5157

Dear Mr. Kevin Marek,

Referencing memorandum dated 11 March 2016, Subject as stated above, EPA understands that The National Guard Bureau is preparing an Environmental Assessment (EA) to analyze the potential impacts and environmental consequences associated with stationing C-17 and or KC-135's at the 123rd Airlift Wing, Kentucky National Guard at Standiford Field Louisville, KY. Consistent with Section 102(2)(c) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) appreciates the opportunity to review the scoping description of the National Guard Bureau's proposal to replace older airlift aircraft with newer and more agile airlift aircraft.

EPA's preliminary concerns at this time can be summarized to include the following:

Purpose & Need - The EA should discuss in detail the purpose of expanding and enhancing The Kentucky Air National Guard. Clearly list the alternatives and the criteria for selecting the Preferred Alternative.

Air Quality - The project must also be consistent with General Conformity requirements to the extent that predicted air emissions are above de minimis levels for this proposal. Additional air quality concerns include the secondary impacts often associated with additional administrative buildings relative to additional aircraft, associated ground support equipment/ auxiliary generators and vehicular emissions from increased traffic and any requirements relating to Transportation Conformity.

Noise - The selected sites; i.e. airfield, heavy equipment, hours of operation of the aircraft, quiet times, the use of non-compatible land, in order to minimize noise impacts to any nearby residents.

Waters of the United States - According to Figure 1 of the Scoping document, it does not appear at this time that this project will impact jurisdictional waters of wetlands; However, Consistent with Section 404 of the Clean Water Act, the selected sites should avoid and minimize, to the maximum extent practicable, placement of fill into jurisdictional waters of the United States, which include wetlands and streams. Any potential site should be assessed (delineated) for the presence of federally jurisdictional waters. It should be noted that jurisdictional waters of the United States can differ from waters of the State subject to State of Kentucky laws and regulations, and which are the basis for any County issued permits. Any fill material in waters of the United States will require a permit or authorization from the U.S. Army Corps of Engineers (COE). We encourage you to initiate coordination with the COE as soon as your preferred site is identified and if there will be wetland or stream impacts associated with this project.

Environmental Justice (EJ) - The environmental, socioeconomic and health related impacts to potential EJ populations should be evaluated in the proposed EA. The demographics of the area should be documented in terms of the existence of minority and low-income populations. This description should include US Census data for the geographic unit(s) such as the Census Block Group(s) (BGs) encompassing the airport. At a minimum, the percentages of minority and low-income populations within these BGs should be documented and compared against other demographics of the area, as well as against the percentages of neighboring BGs, counties and the State of Kentucky. In addition, other demographic factors like population age, density, literacy, etc. may also be important to the overall assessment. Meaningful collaboration with the community can also help to identify whether any "pockets" (concentrations) of EJ communities and low-income populations. We suggest coordination with local community leaders and groups in an effort to engage these communities in the scoping, assessment and project design process. The EA should include maps of the surrounding communities and indicate the proximity of communities with potential EJ concerns to the proposed project area.

Depending on the outcome of the EJ assessment, it may be necessary to enhance public participation with susceptible EJ communities to better understand their concerns and to identify whether there is an increased potential for exposure to environmental hazards associated with the stationing of new aircraft. The EA should identify whether multiple or cumulative impacts are likely to occur. Any benefits (i.e. jobs), to the affected communities that may be derived from the project should be also included in the EA including any construction or operation jobs related to the proposed airport expansion, or local training for those jobs. If the environmental impacts of the proposed project appear to fall disproportionately minority and/or low income populations, then mitigation options should also be considered.

NPDES - National Pollutant Discharge Elimination System (NPDES) permit coverage for both project construction and operation are needed for point-source discharges.

Ground-Water Quality - In addition to waters of the United States and NPDES issues, there may be additional water quality concerns for the proposal that relate to groundwater. The EA should consider identifying existing ongoing restoration efforts within the project site. Protect monitoring wells to ensure they are not damaged, also ensure wells are properly closed prior to demolition or construction. Damaged or improperly closed monitoring wells can serve as a conduit/source to contaminate the ground water.

Cultural Resources - Continue to coordinate with the National Register of Historic Places (NHRP). Impacts to historic and archaeological resources must also be reviewed, with listed sites avoided or appropriately relocated to the satisfaction of the Kentucky State Historic Preservation Officer (SHPO).

Cumulative Impacts - The EA should also consider the cumulative impacts of the proposed project, particularly for those impacts generated by the project (e.g., noise and air quality). That is, the EA should discuss all (federal and non-federal) past, present, proposed and future (foreseeable within 10-15 year timeframe) projects that are within the designated project area or affect that area. Such project areas are often designated by logical geographic boundaries such as watersheds or airsheds, or by other methods. The cumulative impact analysis can be important for even small projects if their proposed location is in an area that is already extensively developed. The EA document should also discuss the future increase in personnel as a result of the new command organizational structure.

Installation Restoration- According to the scoping document, several buildings will require demolition and or renovation. The EA should mention any environmental hazards associated with these projects on the airfield.

Recycling - Consider an aggressive recycling program for any buildings planned for demolitions. Divert as much material from the landfill as possible.

Energy - Consider energy sustainable buildings utilizing variable forms of proven alternative energy applicable for this area. Please see attached for additional info. http://www.wbdg.org/references/federal_mandates.php

Climate Change- Consider and include Council on Environmental Equality's Draft Guidance as part of the Environmental Assessment.

https://www.federalregister.gov/articles/2014/12/24/2014-30035/revised-draft-guidance-for-federal-departments-and-agencies-on-consideration-of-greenhouse-gas#h-49 <https://www.federalregister.gov/articles/2014/12/24/2014-30035/revised-draft-guidance-for-federal-departments-and-agencies-on-consideration-of-greenhouse-gas#h-49>

Keep the local community/stakeholders informed and involved throughout the project process; by having community meetings and/or updating the community through local media (radio, social media, local paper and TV).

Upon completion of the Draft and Final Environmental Assessment, Please forward two (2) hard copies, to Mr. Chris Militscher, Chief, NEPA Program Office, to the address below.

Thank you for the opportunity to comment, if you have any questions, you can reach me via the information below.

Larry O. Gissentanna

DoD and Federal Facilities, Project Manager U.S. Environmental Protection Agency/ Region 4 Resource Conservation and Restoration Division National Environmental Policy Act (NEPA) Program Office 61 Forsyth Street, SW Atlanta, GA 30303-8960 Office: 404-562-8248 gissentanna.larry@epa.gov mailto:gissentanna.larry@epa.gov Page intentionally left blank

APPENDIX B

GENERAL CONFORMITY APPLICABILITY ANALYSIS

AIR CONFORMITY APPLICABILITY MODEL REPORT RECORD OF CONFORMITY ANALYSIS

General Information. The Air Force Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

Action Title:	C-17/KC-135 Beddown
Base:	Louisville International Airport
County:	Jefferson
Regulatory Area:	Louisville, KY-IN; Jefferson County, KY

Activities Included in the Analysis:

Petroleum, Oil, and Lubricant (POL) Farm Fuel Hydrant System Maintenance Hangar Fuel Cell/Corrosion Control Hangar Simulator/AGE Covered Storage for Fire Apparatus Vehicle Maintenance Modification

Analysis. Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B. Based on the analysis, the requirements of this rule are not applicable

Pollutant	А	ction Emissions (ton	/yr)	General C	onformity
	OperationalConstructionC-17 Beddown		Operational KC-135 Beddown	Threshold (ton/year)	Exceedance (Yes or No)
NO _x	8.9	68.7	8.9	100	No
VOC	2.7	< 0.0	< 0.0	100	No
SO_2	< 0.1	1.7	0.3	100	No
PM _{2.5}	0.5	< 0.0	< 0.0	100	No

Table B-1. Conformity Analysis Summary

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); therefore, the requirements of the General Conformity Rule are not applicable.

National Guard Bureau

Date

APPENDIX C

LAND-USE COMPATIBILITY GUIDELINES

The Air Force land use guidelines for noise exposure are essentially the same as those published by the Federal Interagency Committee on Urban Noise in the June 1980 publication, *Guidelines for Considering Noise in Land-Use Planning and Control.* These land use compatibility guidelines have been included for reference purposes (Table C-1).

Land Use		Accide	ent Pote	ential	Noise Zones in DNL dB			
SLUC		Zones						
M No.	Name	Clear	APZ	APZ	65-	70-	75-	80+
		Zone	Ι	II	69	74	79	
10	Residential							
11	Household units	1	1	1	1		1	
11.11	Single units; detached	Ν	Ν	Y1	A11	B11	Ν	Ν
11.12	Single units; semidetached	Ν	Ν	Ν	A11	B11	Ν	Ν
11.13	Single units; attached row	Ν	Ν	N	A11	B11	Ν	Ν
11.21	Two units; side-by-side	Ν	Ν	Ν	A11	B11	Ν	Ν
11.22	Two units; one above the other	Ν	Ν	Ν	A11	B11	Ν	N
11.31	Apartments; walk up	Ν	Ν	Ν	A11	B11	Ν	Ν
11.32	Apartments; elevator	Ν	Ν	N	A11	B11	Ν	Ν
12	Group quarters	Ν	Ν	N	A11	B11	Ν	Ν
13	Residential hotels	Ν	Ν	Ν	A11	B11	Ν	Ν
14	Mobile home parks or courts	Ν	Ν	Ν	Ν	Ν	Ν	Ν
15	Transient lodgings	Ν	Ν	N	A11	B11	C11	Ν
16	Other residential	Ν	Ν	N1	A11	B11	Ν	Ν
20	Manufacturing				1			1
21	Food & kindred products;	Ν	N2	Y	Y	Y12	Y13	Y14
22	Textile mill products; manufacturing	N	N2	Y	Y	Y12	Y13	Y14
23	Apparel and other finished products made from fabrics, leather, and similar materials; manufacturing	N	N	N2	Y	Y12	Y13	Y14
24	Lumber and wood products (except furniture); manufacturing	N	Y2	Y	Y	Y12	Y13	Y14
25	Furniture and fixtures; manufacturing	N	Y2	Y	Y	Y12	Y13	Y14
26	Paper & allied products; manufacturing	N	Y2	Y	Y	Y12	Y13	Y14
27	Printing, publishing, and allied industries	N	Y2	Y	Y	Y12	Y13	Y14
28	Chemicals and allied products; manufacturing	N	N	N2	Y	Y12	Y13	Y14

Table C-1. Land Use Compatibility Guidelines

29	Petroleum refining and	Ν	Ν	Y	Y	Y12	Y13	Y14
	related industries							
30	Manufacturing							
31	Rubber and misc. plastic	Ν	N2	N2	Y	Y12	Y13	Y14
	products, manufacturing							
32	Stone, clay and glass	Ν	N2	Y	Y	Y12	Y13	Y14
	products manufacturing							
33	Primary metal industries	Ν	N2	Y	Y	Y12	Y13	Y14
34	Fabricated metal products;	Ν	N2	Y	Y	Y12	Y13	Y14
	manufacturing							
35	Professional, scientific, and	Ν	Ν	N2	Y	A	В	Ν
	controlling instruments;							
	photographic and optical							
	goods; watches and clocks							
20	manufacturing) T	1/0	1/0	X 7	1/10	1/10	371.4
39	Miscellaneous manufacturing	N	Y2	Y2	Y	Y12	Y13	Y14
40	Transportation, Communica	tions ar	id Utili	ties	1	1	1	
41	Railroad, rapid rail transit	N3	Y4	Y	Y	Y12	Y13	Y14
	and street railroad							
	transportation							
42	Motor vehicle transportation	N3	Y	Y	Y	Y12	Y13	Y14
43	Aircraft transportation	N3	Y4	Y	Y	Y12	Y13	Y14
44	Marine craft transportation	N3	Y4	Y	Y	Y12	Y13	Y14
45	Highway & street right-of-	N3	Y	Y	Y	Y12	Y13	Y14
	way							
46	Automobile parking	N3	Y4	Y	Y	Y12	Y13	Y14
47	Communications	N3	Y4	Y	Y	A15	B15	N
48	Utilities	N3	Y4	Y	Y	Y	Y12	Y13
49	Other transportation	N3	Y4	Y	Y	A15	B15	Ν
	communications and utilities							
50	Trade							
51	Wholesale trade	Ν	Y2	Y	Y	Y12	Y13	Y14
52	Retail trade-building	Ν	Y2	Y	Y	Y12	Y13	Y14
	materials, hardware and farm							
	equipment							
53	Retail trade-general	Ν	N2	Y2	Y	А	В	Ν
	merchandise							
54	Retail trade-food	Ν	N2	Y2	Y	А	В	Ν
55	Retail trade-automotive,	N	Y2	Y2	Y	A	В	Ν
	marine craft, aircraft and							
	accessories							
56	Retail trade-apparel and	N	N2	Y2	Y	A	B	Ν
	accessories							
57	Retail trade-furniture, home	N	N2	Y2	Y	A	B	Ν
	furnishings and equipment							

58	Retail trade-eating and	Ν	Ν	N2	Y	А	В	N		
	drinking establishments						_			
59	Other retail trade	Ν	N2	Y2	Y	A	В	Ν		
60	Services									
61	Finance, insurance and real estate services	N	N	Y6	Y	A	В	N		
62	Personal services	N	N	Y6	Y	А	В	Ν		
62.4	Cemeteries	N	Y7	Y7	Y	Y12	Y13	Y14, 21		
63	Business services	N	Y8	Y8	Y	Α	В	N		
64	Repair services	N	Y2	Y	Y	Y12	Y13	Y14		
65	Professional services	N	N	Y6	Y	А	В	N		
65.1	Hospitals, nursing homes	N	N	N	 A*	B*	N	N		
65.1	Other medical facilities	N	N	N	Y	Α	В	N		
66	Contract construction services	N	Y6	Y	Y	A	В	N		
67	Governmental services	N	Ν	Y6	Y*	A*	B*	N		
68	Educational services	Ν	Ν	Ν	A*	B*	Ν	Ν		
69	Miscellaneous services	Ν	N2	Y2	Y	А	В	Ν		
70	Cultural, Entertainment and	Recrea	tional							
71	Cultural activities (including churches)	Ν	Ν	N2	A*	B*	Ν	N		
71.2	Nature exhibits	Ν	Y2	Y	Y*	Ν	Ν	Ν		
72	Public assembly	Ν	Ν	Ν	Y	Ν	Ν	Ν		
72.1	Auditoriums, concert halls	Ν	Ν	Ν	Α	В	Ν	Ν		
72.11	Outdoor music shell, amphitheaters	N	N	N	N	N	N	N		
72.2	Outdoor sports arenas, spectator sports	N	N	N	Y17	Y17	N	N		
73	Amusements	Ν	Ν	Y8	Y	Y	Ν	Ν		
74	Recreational activities	N	Y8,9	Y	Y*	A*	B*	Ν		
	(including golf courses, riding stables, water recreation)		,10							
75	Resorts and group camps	Ν	Ν	Ν	Y*	Y*	Ν	Ν		
76	Parks	Ν	Y8	Y8	Y*	Y*	Ν	Ν		
79	Other cultural, entertainment and recreation	Ν	Y9	Y9	Y*	Y*	Ν	Ν		
80	Resources Production and E	xtractio	n							
81	Agriculture (except livestock)	Y16	Y	Y	Y18	Y19	Y20	Y20, 21		
81.5 to 81.7	Livestock farming and animal breeding	N	Y	Y	Y18	Y19	Y20	Y20, 21		
82	Agricultural related activities	N	Y5	Y	Y18	Y19	N	Ν		

83	Forestry activities and related services	N5	Y	Y	Y18	Y19	Y20	Y20, 21
84	Fishing activities and related services	N5	Y5	Y	Y	Y	Y	Y
85	Mining activities and related services	Ν	Y5	Y	Y	Y	Y	Y
89	Other resources production and extraction	N	Y5	Y	Y	Y	Y	Y

LEGEND

SLUCM - Standard Land Use Coding Manual, U.S. Department of Transportation.

Y - (Yes) - Land use and related structures are compatible without restriction.

N - (No) - Land use and related structures are not compatible and should be prohibited.

 Y^x - (yes with restrictions) - Land use and related structures generally compatible; see notes 1-21.

 N^{x} - (no with exceptions) - See notes 1-21.

NLR - (Noise Level Reduction) - NLR (outdoor to indoor) to be achieved through incorporation of noise attenuation measures into the design and construction of the structures (see Appendix C, section c.4).

A, B, or C - Land use and related structures generally compatible; measures to achieve NLR of A (DNL 25 dB), B (DNL 30 dB), or C (DNL 35 dB) need to be incorporated into the design and construction of structures.

 A^* , B^* , and C^* - Land use generally compatible with NLR. However, measures to achieve an overall noise level reduction do not necessarily solve noise difficulties and additional evaluation is warranted. See appropriate footnotes.

* - The designation of these uses as "compatible" in this zone reflects individual federal agency and program consideration of general cost and feasibility factors, as well as past community experiences and program objectives. Localities, when evaluating the application of these guidelines to specific situations, may have different concerns or goals to consider. NOTES

1. Suggested maximum density of 1-2 dwelling units per acre possibly increased under a Planned Unit Development where maximum lot coverage is less than 20 percent.

2. Within each land use category, uses exist where further definition may be needed due to the variation of densities in people and structures. Shopping malls and shopping centers are considered incompatible in any accident potential zone (CZ, APZ I, or APZ II).

3. The placing of structures, buildings, or aboveground utility lines in the clear zone is subject to severe restrictions. In a majority of the clear zones, these items are prohibited. See AFI 32-7063 and UFC 3-260-01 for specific guidance.

4. No passenger terminals and no major aboveground transmission lines in APZ I.

5. Factors to be considered: labor intensity, structural coverage, explosive characteristics, and air pollution.

6. Low-intensity office uses only. Meeting places, auditoriums, etc., are not recommended.

7. Excludes chapels.

8. Facilities must be low intensity.

9. Clubhouse not recommended.

10. Areas for gatherings of people are not recommended.

11A. Although local conditions may require residential use, it is discouraged in DNL 65-69 dB and strongly discouraged in DNL 70-74 dB. An evaluation should be conducted prior to approvals, indicating a demonstrated community need for residential use would not be met if development were prohibited in these zones, and there are no viable alternative locations.

11B. Where the community determines the residential uses must be allowed, measures to achieve outdoor to indoor NLR for DNL 65-69 dB and DNL 70-74 dB should be incorporated into building codes and considered in individual approvals.

11C. NLR criteria will not eliminate outdoor noise problems. However, building location and site planning, and design and use of berms and barriers can help mitigate outdoor exposure,

particularly from near ground level sources. Measures that reduce outdoor noise should be used whenever practical in preference to measures which only protect interior spaces.

12. Measures to achieve the same NLR as required for facilities in the DNL 65-69 dB range must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

13. Measures to achieve the same NLR as required for facilities in the DNL 70-74 dB range must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

14. Measures to achieve the same NLR as required for facilities in the DNL 75-79 dB range must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.

15. If noise sensitive, use indicated NLR; if not, the use is compatible.

16. No buildings.

17. Land use is compatible provided special sound reinforcement systems are installed.

18. Residential buildings require the same NLR required for facilities in the DNL 65-69 dB range.

19. Residential buildings require the same NLR required for facilities in the DNL 70-74 dB range.

20. Residential buildings are not permitted.

21. Land use is not recommended. If the community decides the use is necessary, personnel should wear hearing protection devices