

TABLE OF CONTENTS

TABLE OF CONTENTS

<i>Chapter</i>	<i>Page</i>
EXECUTIVE SUMMARY	ES-1
1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION	1-1
1.1 INTRODUCTION	1-1
1.2 BACKGROUND	1-2
1.2.1 Global Hawk Characteristics	1-3
1.2.2 Global Hawk Mission	1-6
1.3 PURPOSE AND NEED FOR THE ACTION	1-9
2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES	2-1
2.1 ALTERNATIVE IDENTIFICATION PROCESS	2-1
2.1.1 Alternative Identification Process Methodology	2-1
2.1.2 Alternatives Considered But Not Carried Forward	2-2
2.1.3 Alternatives Carried Forward for Detailed Analysis	2-2
2.1.4 Identification of the Preferred Alternative	2-4
2.2 PROPOSED ACTION AND ALTERNATIVES	2-4
2.2.1 Aircraft and Airfield Flight Operations	2-6
2.2.2 Ground-based Operations and Maintenance	2-9
2.2.3 Construction	2-9
2.2.4 Personnel	2-15
2.2.5 No-Action Alternative	2-18
2.3 ENVIRONMENTAL IMPACT ANALYSIS PROCESS	2-18
2.3.1 Scoping and Public Involvement	2-20
2.3.2 Public Comment on the Draft EA	2-20
2.3.3 Consultation	2-20
2.3.4 Permits	2-21
3.0 AFFECTED ENVIRONMENT	3-1
3.1 ANALYSIS APPROACH	3-1
3.2 AIRSPACE MANAGEMENT AND AIR SAFETY	3-4
3.3 NOISE AND LAND USE	3-7
3.4 HUMAN RESOURCES	3-18
3.5 PHYSICAL RESOURCES	3-24
3.6 NATURAL RESOURCES	3-43
3.7 CULTURAL RESOURCES	3-53
4.0 ENVIRONMENTAL CONSEQUENCES	4-1
4.1 INTRODUCTION	4-1
4.2 AIRSPACE MANAGEMENT AND AIR SAFETY	4-1
4.3 NOISE AND LAND USE	4-9
4.4 HUMAN RESOURCES	4-11
4.5 PHYSICAL RESOURCES	4-13
4.6 NATURAL RESOURCES	4-19
4.7 CULTURAL RESOURCES	4-23
5.0 CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	5-1
5.1 CUMULATIVE EFFECTS	5-1
5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES	5-3
6.0 PERSONS AND AGENCIES CONTACTED	6-1

Global Hawk Main Operating Base Beddown EA

7.0	LIST OF PREPARERS AND CONTRIBUTORS	7-1
8.0	REFERENCES CITED	8-1
9.0	INDEX	9-1

APPENDICES

APPENDIX A: NOISE	A-1
APPENDIX B: SOCIOECONOMICS	B-1
APPENDIX C: AIR QUALITY ANALYSIS	C-1
APPENDIX D: BIOLOGICAL RESOURCES	D-1
APPENDIX E: AIRSPACE MANAGEMENT	E-1
APPENDIX F: CONSULTATION	F-1
APPENDIX G: COMMENTS AND RESPONSES	G-1

FIGURES

Figure 1.1-1	Potential Locations of Global Hawk Main Operating Base	1-1
Figure 1.2-1	The Global Hawk/Satellite Ground Control Units	1-3
Figure 1.2-2	Global Hawk Air Vehicle Features	1-4
Figure 1.2-3	Global Hawk Common Ground Segment	1-6
Figure 1.2-4	Global Hawk Mission Profile	1-7
Figure 2.2-1	Projected Annual Airfield Operations	2-7
Figure 2.2-2	Baseline and Projected Airfield Operations	2-8
Figure 2.2-3	Construction Areas Beale AFB, California	2-11
Figure 2.2-4	Construction Areas Edwards AFB, California	2-12
Figure 2.2-5	Construction Areas Ellsworth AFB, South Dakota	2-13
Figure 2.2-6	Construction Areas Tinker AFB, Oklahoma	2-15
Figure 2.2-7	Construction Areas Wright-Patterson AFB, Ohio	2-16
Figure 2.2-8	Comparison of Base Personnel with Global Hawk Beddown to 10-Year High	2-18
Figure 3.2-1	Airspace Blocks and Procedures	3-4
Figure 3.3-1	Community Land Use Management Areas Associated with Beale AFB, California	3-13
Figure 3.3-2	Community Land Use Management Areas Associated with Ellsworth AFB, South Dakota	3-15
Figure 3.3-3	Community Land Use Management Areas Associated with Tinker AFB, Oklahoma	3-16
Figure 3.3-4	Community Land Use Management Areas Associated with Wright-Patterson AFB, Ohio	3-17
Figure 3.4-1	Beale Air Force Base, California Affected Areas: Human Resources	3-19
Figure 3.4-2	Edwards Air Force Base, California Affected Areas: Human Resources	3-20
Figure 3.4-3	Ellsworth Air Force Base, South Dakota Affected Areas: Human Resources	3-21
Figure 3.4-4	Tinker Air Force Base, Oklahoma Affected Areas: Human Resources	3-22
Figure 3.4-5	Wright-Patterson Air Force Base, Ohio Affected Areas: Human Resources	3-23
Figure 3.5-1	Beale Air Force Base, California Air Basins and Air Districts	3-31
Figure 3.5-2	Edwards Air Force Base, California Air Basins and Air Districts	3-33
Figure 3.5-3	Attainment Status in the Vicinity of Edwards Air Force Base	3-34
Figure 3.5-4	Ellsworth Air Force Base, South Dakota Black Hills-Rapid City Intrastate AQCR and Class I Areas	3-35
Figure 3.5-5	Tinker Air Force Base, Oklahoma Central Oklahoma Intrastate AQCR	3-37
Figure 3.5-6	Wright-Patterson Air Force Base, Ohio Metropolitan Dayton Intrastate AQCR	3-38
Figure 3.6-1	Natural Resource Constraints, Beale AFB, California	3-45
Figure 3.6-2	Natural Resource Constraints, Edwards AFB, California	3-46
Figure 3.6-3	Natural Resource Constraints, Ellsworth AFB, South Dakota	3-47
Figure 3.6-4	Natural Resource Constraints, Tinker AFB, Oklahoma	3-48
Figure 3.6-5	Natural Resource Constraints, Wright-Patterson AFB, Ohio	3-49

Figure 4.2-1	Global Hawk Flight Activities within Airspace Blocks	4-3
Figure 4.2-2	Radar Coverage and ATC for Global Hawk at Beale AFB	4-4
Figure 4.2-3	Edwards AFB Airspace for Global Hawk	4-4
Figure 4.2-4	Radar Coverage and ATC for Global Hawk at Ellsworth AFB	4-5
Figure 4.2-5	Radar Coverage and ATC for Global Hawk at Tinker AFB	4-5
Figure 4.2-6	Radar Coverage and ATC for Global Hawk at Wright-Patterson AFB	4-6

TABLES

Table ES-1	Comparison of Alternatives by Resource	ES-3
Table 2.2-1	Estimated Schedule for Proposed Action	2-5
Table 2.2-2	Current and Projected Aircraft Inventory	2-6
Table 2.2-3	Time at Altitude for Global Hawk Takeoff and Landing	2-8
Table 2.2-4	Comparison of Construction by Base	2-14
Table 2.2-5	Global Hawk Personnel	2-17
Table 2.2-6	Baseline and Global Hawk Personnel	2-17
Table 3.1-1	Resources and Issues Considered in the Environmental Impact Process	3-2
Table 3.2-1	Comparison of Airspace and Airfield Environment	3-6
Table 3.2-2	Class A Mishap Rates for Dominant Aircraft	3-6
Table 3.2-3	Comparison of Baseline Bird-Aircraft Strikes Among Alternative Bases	3-7
Table 3.3-1	Acres Under Noise Contours	3-9
Table 3.3-2	SELs at Representative Altitudes (feet AGL)	3-10
Table 3.3-3	Developed and Undeveloped Land Uses on Base	3-11
Table 3.3-4	Plans and Ordinances for Off-Base Land Use	3-12
Table 3.3-5	Comparison of Off-Base Residential Land Uses Under Noise Contours	3-14
Table 3.5-1	Federal National and State Ambient Air Quality Standards	3-25
Table 3.5-2	Threshold Levels for Nonattainment Areas	3-27
Table 3.5-3	Threshold Levels for Maintenance Areas	3-28
Table 3.5-4	Total Base Emission	3-29
Table 3.5-5	Attainment Classification for Selected Criteria Pollutants	3-30
Table 3.5-6	Annual Amount of Hazardous Waste Generated by Base	3-40
Table 3.5-7	Erosion Potential of Soils	3-41
Table 3.6-1	Summary of Biological Data by Base	3-44
Table 3.6-2	Federal and State Threatened and Endangered Species Located within Base Areas	3-52
Table 3.7-1	Cultural Resources Data Sources	3-55
Table 3.7-2	Native American Groups Contacted by the Air Force	3-55
Table 3.7-3	Summary of Cultural Resources at Each Base	3-56
Table 3.7-4	Historic Structures	3-57
Table 4.2-1	Comparison of Class A Mishap Rates for Global Hawk and Dominant Aircraft	4-8
Table 4.2-2	Comparison of Projected Bird-Aircraft Strikes Among Alternative Bases	4-8
Table 4.3-1	SELs (dB) for Various Altitudes (AGL) for Representative Aircraft at each Alternative Base	4-10
Table 4.4-1	Comparison of Economic Effects of Proposed Construction	4-11
Table 4.4-2	Total Personnel and Dependents	4-12
Table 4.4-3	Comparison of Economic Effects of Operations	4-13
Table 4.5-1	Total Air Emissions for Global Hawk at Final Build-up at all Bases (tons/year)	4-15
Table 4.5-2	Summary of Projected Total Emissions (tons/year)	4-15
Table 4.5-3	Hazardous Materials List for the Global Hawk Aircraft	4-17
Table 4.5-4	Hazardous Waste Generated by the Proposed Action	4-18
Table 4.6-1	Possibility for Construction Impacts to Natural Resources	4-20
Table 4.7-1	Reused or Renovated Structures for Global Hawk	4-24