

TABLE OF CONTENTS

PAGE

**SPONSOR'S CERTIFICATION, NOISE EXPOSURE MAPS AND
NEM/NCP CHECKLISTS**

ACRONYMS

CHAPTER ONE – BACKGROUND

1.1	14 CFR Part 150 Planning Process.....	1-1
1.2	Coordination and Public Involvement	1-10
1.3	Status of 1994 Noise Compatibility Program.....	1-17
1.4	Airport Location and History.....	1-21
1.5	Airport Facilities	1-21
1.6	Airlines and Airport Users	1-28
1.7	Airspace and Air Traffic Control (ATC)	1-30
1.8	Air Traffic Activity.....	1-37

CHAPTER TWO – AFFECTED ENVIRONMENT

2.1	Airport Location	2-1
2.2	Existing Land Use Guidelines.....	2-8

CHAPTER THREE – BASELINE NOISE EXPOSURE

3.1	Overview	3-1
3.2	Aircraft Noise Exposure	3-1

**CHAPTER FOUR – RECOMMENDED NOISE COMPATIBILITY PROGRAM
MEASURES**

4.1	Recommended Program Measures	4-2
4.2	Noise Compatibility Program Map	4-65
4.3	Noise Compatibility Program Costs.....	4-71
4.4	Implementation Schedule	4-71

APPENDICES

APPENDIX A	GLOSSARY OF TERMS
APPENDIX B	FAA POLICIES, GUIDANCE, AND REGULATIONS
APPENDIX C	AIRSPACE PROCEDURES
APPENDIX D	NOISE MODELING METHODOLOGY
APPENDIX E	LAND USE METHODOLOGY
APPENDIX F	NOISE ABATEMENT ALTERNATIVES
APPENDIX G	LAND USE ALTERNATIVES
APPENDIX H	IMPLEMENTATION ALTERNATIVES
APPENDIX I	PLANNING ADVISORY COMMITTEE
APPENDIX J	TECHNICAL ADVISORY COMMITTEE
APPENDIX K	PUBLIC INFORMATION WORKSHOPS
APPENDIX L	PUBLIC HEARING AND WORKSHOP

TABLES

	<u>PAGE</u>
CHAPTER ONE – BACKGROUND	
Table 1-1	Scheduled Service - Existing (2006) Baseline Condition..... 1-29
Table 1-2	Air Traffic Operations Data 1999 - 2006 1-37
Table 1-3	Summary of Modelled Annual Operations 1-38
CHAPTER THREE – BASELINE NOISE EXPOSURE	
Table 3-1	Annual Operations Existing (2006) Condition 3-2
Table 3-2	Area (In Square Miles) within Noise Contour Bands Existing (2006) Baseline Noise Exposure Pattern 3-3
Table 3-3	Residences, Population, and Noise-Sensitive Public Facilities within the Existing (2006) Noise Contour Pattern 3-4
Table 3-4	Summary of Existing and Forecast Annual Operations 3-5
Table 3-5	Area (In Square Miles) within Noise Contour Bands Future (2013) Baseline Noise Exposure Pattern 3-5
Table 3-6	Residences, Population, and Noise-Sensitive Public Facilities within Future (2013) Baseline Noise Exposure Pattern 3-11
Table 3-7	Area (In Square Miles) within Noise Contour Bands Existing (2006) and Future (2013) Baseline Noise Exposure Comparison 3-12
Table 3-8	Summary of Existing and Forecast Annual Operations.... 3-15
Table 3-9	Area (In Square Miles) within Noise Contour Bands Forecast (2025) Baseline Noise Exposure Pattern 3-16
Table 3-10	Residences, Population, and Noise-Sensitive Public Facilities within Future (2025) Baseline Noise Exposure Pattern..... 3-19
CHAPTER FOUR – RECOMMENDED NOISE COMPATIBILITY PROGRAM MEASURES	
Table 4-1	Noise Compatibility Program Recommendations 4-5
Table 4-2	Residences, Population, and Noise-Sensitive Public Facilities within Existing (2006) Noise Contour 4-67
Table 4-3	NCP Implementation Costs..... 4-72
Table 4-4	NCP General Implementation Schedule 4-73
APPENDIX B – FAA, POLICIES, GUIDANCE, AND REGULATIONS	
Table B-1	Summary of Noise Levels Identified As Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety B-8
Table B-2	Land Use Compatibility Guidelines – 14 CFR Part 150 B-11

TABLES, Continued

	<u>PAGE</u>
APPENDIX D – NOISE MODELING METHODOLOGY	
Table D-1	Summary of Current and Forecast Annual Operations D-18
Table D-2	Average Day Operations – January 2006 to December 2006..... D-19
Table D-3	Average Day Operations by Aircraft Type - Existing (2006) Baseline D-20
Table D-4	Average Day Operations – Future (2013) Baseline Scenario D-21
Table D-5	Average Day Operations by Aircraft Type - Future (2013) Baseline Scenario D-22
Table D-6	Runway Utilization - Existing (2006) Baseline..... D-25
Table D-7	Arrival Flight Track Utilization by Aircraft Category Existing (2006) and Future (2013) Baseline Conditions.... D-33
Table D-8	Departure Flight Track Utilization by Aircraft Category Existing (2006) and Future (2013) Baseline Conditions.... D-35
Table D-9	Departure Trip Length Distribution Existing (2006) Conditions D-39
Table D-10	Departure Trip Length Distribution Future (2013) Condition..... D-39
Table D-11	Area (In Square Miles) within Noise Contour Bands Existing (2006) Noise Exposure Pattern D-43
Table D-12	Residences, Population, and Noise-Sensitive Public Facilities within the Existing (2006) Noise Contour Pattern D-44
Table D-13	Area (In Square Miles) within Noise Contour Bands Existing (2006) and Future (2013) Baseline Noise Exposure Comparison D-47
Table D-14	Residences, Population, and Noise-Sensitive Facilities within the Future (2013) Baseline Noise Exposure D-51
Table D-15	Aircraft Measurements Results Summary D-61
Table D-16	Grid Point Locations D-67
Table D-17	Grid Point Results D-73
Table D-18	Summary of Forecast Annual Operations 2012 vs. 2013 D-81
Table D-19	Summary of Existing and Forecast Annual Operations D-85
Table D-20	Average Day Operations by Aircraft Type – Future (2025) Baseline D-87
Table D-21	Runway Utilization – Future (2025) Baseline..... D-93

TABLES, *Continued*

	<u>PAGE</u>
APPENDIX E– LAND USE METHODOLOGY	
Table E-1	Land Use Classifications – Kansas City, Platte City, Parkville, and Platte County E-5
Table E-2	Noise-Sensitive Public Facilities E-6
Table E-3	Generalized Study Area Zoning Classifications..... E-11
APPENDIX F – NOISE MODELING METHODOLOGY	
Table F-1	Nighttime Runway Utilization – Baseline vs. Alternative 3F-17
Table F-2	Nighttime Runway Utilization – Baseline vs. Alternative 3B ..F-23
Table F-3	Runway Utilization – Baseline vs. Alternative 4.....F-29
Table F-4	Runway Utilization – Baseline vs. Alternative 5.....F-35
APPENDIX G– LAND USE ALTERNATIVES	
Table G-1	KCAB Part 150 Mitigation Expenditures (1994 NCP) G-24
Table G-2	1994 14 CFR Part 150 Study Land Use Management Measures and Proposed 2008 14 CFR Part 150 Study Land Use Management Actions..... G-31
Table G-3	Estimated Cost – Land Use Management Measures G-83
APPENDIX H – IMPLEMENTATION ALTERNATIVES	
Table H-1	1994 14 CFR Part 150 Study Implementation Measures and Proposed FAR 2008 Part 150 Study Implementation Actions..... H-3

EXHIBITS

		<u>PAGE</u>
Exhibit NEM-1	NCP-8	NEM-1
Exhibit NEM-2	NCP-9	NEM-2

CHAPTER ONE – BACKGROUND

Exhibit 1-1	Noise Compatibility Planning Process	1-5
Exhibit 1-2	Airport Location Map	1-23
Exhibit 1-3	Airport Facilities.....	1-25
Exhibit 1-4	Air Traffic Control Facilities.....	1-31
Exhibit 1-5	KCI Airspace Structure	1-35

CHAPTER TWO – AFFECTED ENVIRONMENT

Exhibit 2-1	Airport Environs.....	2-3
Exhibit 2-2	Part 150 Study Area.....	2-5
Exhibit 2-3	Existing Land Uses	2-9
Exhibit 2-4	Existing Noise-Sensitive Public Facilities	2-11

CHAPTER THREE – BASELINE NOISE EXPOSURE

Exhibit 3-1	Existing (2006) Baseline Noise Exposure Contours.....	3-7
Exhibit 3-2	Future (2013) Baseline Noise Exposure Contours.....	3-9
Exhibit 3-3	Existing (2006) and Baseline Noise Contour and the Future (2013) Baseline Noise Contour.....	3-13
Exhibit 3-4	Forecast 2025 Noise Exposure Pattern	3-17

CHAPTER FOUR – RECOMMENDED NOISE COMPATIBILITY PROGRAM MEASURES

Exhibit 4-1	Nighttime Runway Use Land Left/Depart Right	4-79
Exhibit 4-2	Preferential North Traffic Flow.....	4-81
Exhibit 4-3	Land Use Mitigation Measure LUMM-20	4-83
Exhibit 4-4	Land Use Mitigation Measure LUMM-21	4-85
Exhibit 4-5	Land Use Mitigation Measure LUMM-22	4-87
Exhibit 4-6	Land Use Mitigation Measure LUMM-23 and 24.....	4-89
Exhibit 4-7	Land Use Mitigation Measure LUMM-25, 26, and 28	4-91
Exhibit 4-8	Land Use Mitigation Measure LUMM-27	4-93

EXHIBITS, *Continued*

	<u>PAGE</u>
APPENDIX C– AIRSPACE	
Exhibit C-1	KCI Airport Facilities..... C-3
Exhibit C-2	Air Traffic Control Facilities..... C-7
Exhibit C-3	KCI Airspace Structure C-11
APPENDIX D– NOISE MODELING METHODOLOGY	
Exhibit D-1	Example of Addition of Two Decibel Levels..... D-3
Exhibit D-2	Example of Sound Level Averaging D-5
Exhibit D-3	Comparison of Different Types of Sound D-9
Exhibit D-4	Relationship Among Different Sound Metrics D-13
Exhibit D-5	Departure Flight Tracks D-29
Exhibit D-6	Arrival Flight Tracks D-31
Exhibit D-7	Existing (2006) Noise Exposure Contour..... D-41
Exhibit D-8	Future (2013)Noise Exposure Contour D-45
Exhibit D-9	Existing (2006) Baseline Compared to Future (2013) Baseline Noise Exposure Contours D-49
Exhibit D-10	Noise Measurement Locations..... D-55
Exhibit D-11	Uniformly Spaced Grid Points..... D-63
Exhibit D-12	Noise Sensitive Public Facilities Grid Point Locations..... D-65
Exhibit D-13	Future (2012) Baseline Noise Exposure Contour D-83
Exhibit D-14	Departure Flight Tracks (2025) D-89
Exhibit D-15	Arrival Flight Tracks (2025) D-91
Exhibit D-16	Future (2025) Baseline Noise Exposure Contour D-95
Exhibit D-17	LMAX Contours – 737700 (2025) D-97
Exhibit D-18	100 % North Flow Contours (2013) D-101
Exhibit D-19	100 % South Flow Contours (2013)..... D-103
Exhibit D-20	100 % North Flow Contours (2025) D-105
Exhibit D-21	100 % South Flow Contours (2025)..... D-107
APPENDIX E– LAND USE METHODOLOGY	
Exhibit E-1	Generalized Existing Land Uses E-3
Exhibit E-2	Existing Noise-Sensitive Facilities E-7
Exhibit E-3	Generalized Zoning Map E-13

EXHIBITS, *Continued*

	<u>PAGE</u>
APPENDIX F – NOISE MODELING METHODOLOGY	
Exhibit F-1	Alternative 1A Noise Exposure Contour F-5
Exhibit F-2	Alternative 1B Noise Exposure Contour F-9
Exhibit F-3	Alternative 1C Noise Exposure ContourF-13
Exhibit F-4	Alternative 3 Noise Exposure ContourF-19
Exhibit F-5	Alternative 3B Noise Exposure ContourF-25
Exhibit F-6	Alternative 4 Noise Exposure ContourF-31
Exhibit F-7	Alternative 5 Noise Exposure ContourF-37
Exhibit F-8	Alternative 7 Noise Exposure ContourF-41
APPENDIX G – LAND USE ALTERNATIVES	
Exhibit G-1	Land Use Planning and Zoning Actions – Kansas City G-25
Exhibit G-2	Land Use Planning and Zoning Actions – Platte County G-27
Exhibit G-3	Recommended Land Acquisition and Mitigation..... G-29
Exhibit G-4	Land Use Mitigation Measure LUMM-20 G-61
Exhibit G-5	Land Use Mitigation Measure LUMM-21 G-65
Exhibit G-6	Land Use Mitigation Measure LUMM-22 G-69
Exhibit G-7	Land Use Mitigation Measure LUMM-20 and 24 G-73
Exhibit G-8	Land Use Mitigation Measure LUMM-25, 26 and 28 G-77
Exhibit G-9	Land Use Mitigation Measure LUMM-27 G-81