JACKSON
MUNICIPAL AIRPORT
AUTHORITY

Jackson-Evers International Airport
14 CFR Part 150 Update
Noise Exposure Maps
Appendices

Jackson, Mississippi

December 2010

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Jackson-Evers International Airport
14 CFR Part 150 Update
Noise Exposure Maps

Appendices

December 2010

JACKSON MUNICIPAL AIRPORT AUTHORITY
100 International Dr., Suite 300
Jackson, MS 39208

Jackson-Evers International Airport
14 CFR Part 150 Update
Noise Exposure Maps
Appendices

This is the second of two volumes for the Jackson-Evers International Airport Part 150 Update Noise Exposure Maps (NEMs). The Appendices which follow contain background and supporting material for the NEMs in accordance with the documentation requirements of Title 14 of the Code of Federal Regulations (CFR) Part 150 "Airport Noise Compatibility Planning." This is not a stand-alone document and should be used together with the first volume of the NEMs. The Appendices are provided under separate cover due to the magnitude of information contained therein and to provide an easier review of the information presented.

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Appendix A
FAA'S 1990 NCP RECORD OF APPROVAL

U.S. Department of Transportation
Federal Aviation Administration

Memorandum

Subject: ACTION: FAR Part 150 Noise Compatibility Program for Jackson Municipal Airport, Jackson, Mississippi

Date: 5/17/90

From: Director, Office of Airport Planning and Programming, APP-1

Reply to Attn. of:

To: Assistant Administrator for Airports, ARP-1

Attached for your action is the Noise Compatibility Program (NCP) for the Jackson Municipal Airport (JAN) under FAR Part 150. The Southern Region, in conjunction with FAA headquarters, has evaluated the program and recommends action as set forth below.

On November 22, 1989, the FAA determined that the Noise Exposure Maps (NEM's) for JAN are in compliance with the requirements of section 103(a) of the Aviation Safety and Noise Abatement Act of 1979 (ASNA) and Title 14, CFR Part 150. Subsequently, the FAA made notification in the Federal Register of the formal 180-day review period for JAN's proposed program under the provisions of section 104(a) of ASNA and FAR Part 150. The 180-day formal review period ends May 21, 1990. If the program is not acted on by the FAA by that date, it will be automatically approved by law, with the exception of flight procedures.

The JAN program describes the current and future noncompatible land uses. The NCP proposes several measures to reduce existing incompatible land uses and prevent future incompatible land uses. Each measure is identified in the attached Record of Approval. The noise abatement measures recommended for approval will provide a net contour reduction to approximately 5 homes in the 65+ Ldn contour and will provide single event noise relief to a significant number of people to the east. The land acquisition measures will mitigate impacts to homes north of the airport which would experience an increase in noise due to the changes in flight procedures; these homes are presently in the 65-70 Ldn.

The Assistant Administrator for Policy and International Aviation and the Chief Counsel have concurred with the recommendations of the Southern Region. If you agree with the recommended FAA determinations, you should sign the "approve" line on the attached signature page. I recommend your approval.

Paul L. Galis

Attachments

M E M O R A N D U M

Federal Aviation
Administration

AIRPORTS DISTRICT OFFICE, JAN-ADO
120 North Hangar Drive, Suite B
Jackson, Mississippi 39208-2306
FTS 490-4628

RE: ACTION: Recommendation for Approval of Jackson International Airport Noise Compatibility Program (NCP), Jackson, Mississippi

DATE: March 20, 1990

FROM: Manager, Airports District Office, JAN-ADO

TO: Manager, Community and Environmental Needs Division, APP-600

THRU: ASO-600

On November 22, 1989, the Jackson International Airport (JAN) was notified of FAA's determination of compliance of the Noise Exposure Map under Section 103.(c) of the Aviation Safety and Noise Abatement Act of 1979 ("the Act"). Coincident with that determination, we began the formal 180-day review period for JAN's proposed Noise Compatibility Program under the provisions of Section 104(a) of the Act. Notice was transmitted to AGC-10 on November 22, 1989, for publication in the Federal Register.

The Southern Region has reviewed and evaluated the proposed Noise Compatibility Program and has concluded that it is consistent with the intent of the Act and that it meets the standards set forth in Part 150 for such programs. The standard Part 150 noise compatibility program checklist was reviewed to ensure that all required items were included in the proposed program. The checklist and NCP document have been transmitted previously.

The proposed program has been reviewed by the Jackson Airports District Office; Flight Standards, Airway Facilities, Air Traffic and Airports Divisions; and Regional Counsel. The Air Traffic Division provided pertinent comments regarding noise departure flight paths, preferential runway use, the proposed Standard Instrument Departure, and the proposed Letter to Airmen. These comments were accepted by the sponsor and incorporated into their NCP. No comments have been received from other participants in the study, nor from other interested parties. Each proposed action in the Noise Compatibility Program was then reviewed and evaluated on the basis of effectiveness and potential conflict with Federal policy and prerogatives. These include safe and efficient use of the nation's airspace, undue burden on interstate commerce, unjust discrimination and interference with a Federal regulatory compliance schedule (i.e., FAR Part 91, Subpart E).

PARTNERS IN CREATING TOMORROW'S AIRPORTS

Our recommendation on each of these proposed actions is described in the attached Record of Approval. Each approved action is described in detail in the JAN NCP and the sponsor's letter dated November 20, 1989 (copy attached).

Newton L. Taylor
Manager, Airports District Office, JAN-ADO

2 Attachments
Record of Approval
Airport Authority's Letter
Dated 11/20/90

Concur (✓) Dale E. McDaniel — ASSISTANT ADMINISTRATOR FOR POLICY AND INTERNATIONAL AVIATION, API-1 — 5/16/90. (Date)
Nonconcur ( )

Concur (X) Gregory S. Walden — CHIEF COUNSEL, AGC-1 — May 17 1990 (Date)
Nonconcur ( )

Approve (X) for Paul L. Galis — ASSISTANT ADMINISTRATOR FOR AIRPORTS, ARP-1 — 5/17/90 (Date)
Disapprove ( )

PARTNERS IN CREATING TOMORROW'S AIRPORTS

RECORD OF APPROVAL

JACKSON INTERNATIONAL AIRPORT
JACKSON, MISSISSIPPI

NOISE COMPATIBILITY PROGRAM

The approvals listed herein include approvals of actions that the airport recommends be taken by the Federal Aviation Administration (FAA). It should be noted that these approvals indicate only that the actions would, when implemented, be consistent with the purposes of Part 150. Later decisions concerning possible implementation of these actions may be subject to applicable environmental or other procedures or requirements.

The recommendations below summarize as closely as possible the airport operator's recommendations in the noise compatibility program and are cross-referenced to the program. The statements contained within the summarized recommendations, and before the indicated FAA approval or other determination, do not represent the opinion or decisions of the FAA.

NOISE ABATEMENT MEASURES

1. RUNWAY 15R AND 15L NOISE ABATEMENT DEPARTURE FLIGHT PATHS.

   Turbojet aircraft and aircraft weighing more than 12,500 pounds maintain runway heading until crossing I-20.

   The Airport Authority will request the Air Traffic Control Tower to issue a facility directive to keep departing turbojets and aircraft weighing more than 12,500 pounds on runway heading until reaching JAN 15 DME or 3,000 feet AMSL. A Letter to Airmen will be published advising of this noise abatement procedure. This measure will significantly reduce the single event noise level impact on a large number of affected residents. It will also result in a net reduction in the number of noise impacted residences. (Sections 5 [Figure 5-3], 8 and 9)

   FAA Action: **Approved.**

   Use of a facility directive rather than a SID was recommended by the Air Traffic Division because there is a current SID that states in part "climb on runway heading or as assigned for vectors to join filed route." They also recommended this procedure be applicable to only turbojets and aircraft weighing more than 12,500 pounds to prevent adverse effect on the capacity of the airport. (Appendix D - Air Traffic Division's letter dated August 3, 1989)

2. NORTH FLOW (33L/33R) PREFERENTIAL RUNWAY. (Sections 8 and 9)

FAA Action: **Disapproved.**

The sponsor elected not to implement this recommendation because of valid objections voiced by the Air Traffic Division. The most precise instrument approach (ILS CAT IIIa) is established to Runway 15L. Other instrument approaches and navigational aids have been established with Runway 15L/15R as the preferred runway. Establishing Runway 33L/33R as the preferred runway based only on wind conditions would adversely affect the advantage of the instrumentation to Runway 15L/15R. (Appendix D - Air Traffic Division's letter dated August 3, 1989)

3. RUNWAY 15L/33R NOISE ABATEMENT TOUCH-AND-GO FLIGHT PATHS.

The downwind leg of all operations by turbojets and aircraft weighing more than 12,500 pounds east of the airport shall be made east of the Crossgates Lake area, and all turns from downwind to base leg for final approach to Runway 33R/33L shall be made after crossing I-20. A Letter to Airmen will be published advising of this noise abatement procedure. This measure will significantly reduce the single event noise level impact on a large number of affected residents. It will also result in a net reduction in the number of noise impacted residences. (Sections 5 [Figure 5-3], 8 and 9)

FAA Action: **Approved.**

The Air Traffic Division recommended that these procedures be applicable to only turbojets and aircraft weighing more than 12,500 pounds to prevent adverse effects on the capacity of the airport. (Appendix D - Air Traffic Division's letter dated August 3, 1989)

LAND USE MEASURES - REMEDIAL

1. LAND ACQUISITION.

The Airport Authority will acquire fee simple title to the approximately 23 acres in approach to Runway 15R on which 8 mobile homes, 5 permanent homes, and 2 retail businesses are located. Acquisition will take place as federal funds become available. (Sections 5 [Figure 5-3], 7, 9 and Table 9-1)

FAA Action: **Approved.**

This area is directly under the flight path to Runway 15R and is situated 5000 feet from the Runway 15R threshold and only 2500 feet from the Runway 15L threshold. It is within the 70 Ldn noise contour with a portion in the 65 Ldn which is between the 70 Ldn contour for both runways.

2. SOUND ATTENUATION.

The Airport Authority will establish a voluntary sound attenuation program to include 3 retail businesses in the 75 Ldn, 3 retail businesses and 1 church in the 70 Ldn, and 1 school and 1 church in the 65 Ldn. The program will be implemented as local and federal funds become available. (Section 7, Section 9, and Table 9-1)

FAA Action: **Approved.**

3. ACQUISITION OF AVIGATION EASEMENTS.

The Airport Authority will establish a voluntary program for acquisition of avigation easements for the 5 mobile and 27 permanent homes in the 70 Ldn. The program will be implemented as local and federal funds become available. (Section 7 and Section 9 and Table 9-1)

FAA Action: **Approved.**

LAND USE MEASURES - PREVENTATIVE

1. ACQUISITION OF VACANT LAND AND AVIGATION EASEMENTS.

The Airport Authority will acquire fee simple title or an avigation easement in all vacant land in the 75 Ldn as local and federal funds become available. (Chapters 7 and 9)

FAA Action: **Disapproved pending submission by the sponsor** of evidence that the vacant land will be used for construction of residences or other incompatible uses.

2. ENACTMENT OF NEW ZONING AND CHANGES TO EXISTING ZONING. (Chapters 7 and 9)

a. Acknowledge the City of Pearl's program to develop a comprehensive land-use plan and recommend use of the Noise Compatibility Program Report to insure compatible land use around the airport. (Appendix D - City of Pearl's letter dated August 17, 1989)

FAA Action: **Approved.**

3. Acknowledge the City of Flowood's intent to utilize their existing zoning regulations to insure land-use compatibility

in the vicinity of the airport and provide assistance as requested. (Appendix D - Town of Flowood's letter dated August 19, 1989)

FAA Action: **Approved.**

4. Recommend that Rankin County utilize the Noise Compatibility Program to enact zoning in the vicinity of the airport.

FAA Action: **Approved.**

PROVISIONS FOR REVISIONS TO THE NOISE EXPOSURE MAPS (NEM) AND NOISE COMPATIBILITY PROGRAM (NCP) (Chapter 8)

The Airport Authority will evaluate the activity at the airport at the end of five years and update the NEM and NCP if necessary. They will be updated prior to this time if necessitated by physical changes in the airport layout, changes in activity, or any other circumstances that would affect the NEM or NCP. The Advisory Committee will continue as the Noise Abatement Committee and meet at least twice annually to review the adequacy of the NEM and NCP. (Section 8)

FAA Action: **Approved.**

JACKSON MUNICIPAL AIRPORT AUTHORITY

ALLEN C. THOMPSON FIELD – HAWKINS FIELD

April 26, 1990

Mr. Elton Jay
Federal Aviation Administration
P. O. Box 6111
Jackson, Mississippi 39208

Dear Mr. Jay:

May I request that my letter of November 20, 1989, regarding the Noise Compatibility Program (NCP) for the Jackson International Airport be rescinded.

Based on our reexamination of the proposed program as contained in the Volume II: Noise Compatibility Program Report, September, 1988, the Jackson Airport Authority accepts the compatibility program as presented therein, with the exception of the preferential runway action which was objectionable to the FAA.

Thanks very much for your assistance.

Yours very truly,

Morgan E. Williams
Executive Director

MEW:sj

POST OFFICE BOX 98109 • JACKSON, MISSISSIPPI 39298-8109 • TELEPHONE (601) 939-5631 • (MEMBER ACCI-AAAE-SAMA-MAMA)

JACKSON MUNICIPAL
AIRPORT AUTHORITY

ALLEN C. THOMPSON FIELD – HAWKINS FIELD

CHAIRMAN
Earl R. Wilson
VICE CHAIRMAN
Cornelius Turner
Booker T. Jones
Costas Pavlou
J. L. Holloway
EXECUTIVE DIRECTOR
Morgan E. Williams

November 20, 1989

Mr. Elton Jay
Airports District Office
Federal Aviation Administration
120 North Hangar Drive
Suite B
Jackson, Mississippi 39208-2306

Dear Mr. Jay:

The Noise Compatibility Program Report of the FAR Part 150 Airport Noise Compatibility Study for the Jackson International Airport has been completed. After careful review of all of the alternatives, the Jackson Airport Authority's Noise Compatibility Program will consist of the following actions:

1. The Jackson ATCT will be requested to keep all turbojet aircraft and aircraft weighing more than 12,500 pounds, departing RW 15L/15R, on runway heading until reaching JAN 15 DME or 3,000 feet AMSL.

2. Implement use of the noise abatement flight tracks and publish a Noise Abatement letter to Airmen containing the first three items of the letter recommended in figure 8-3 of the Report.

3. Request the Jackson ATCT's assistance in distribution and implementation of the Noise Abatement letter to Airmen.

4. Acquire fee simple title to the approximately 23 acres in approach to RW 15R on which 8 mobile homes, five permanent homes, and two retail businesses are located. Acquisition will take place as federal funds become available.

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Mr. Elton Jay
November 20, 1989

Page 2

5. Assist, if requested, the City of Jackson in implementation of the Comprehensive Plan for Jackson, Mississippi for 1989, as adopted by the City Council, which contains the table, Land Use Compatibility with Yearly Day/Night average sound levels, from the Noise Compatibility Study, to insure compatible land use.

6. Acknowledge the City of Flowood's intent to utilize their existing zoning regulations to insure land use compatibility in the vicinity of the airport and provide assistance as requested.

7. Acknowledge the City of Pearl's program to develop a comprehensive land use plan and recommend use of the Noise Compatibility Program Report to insure compatible land use around the airport.

8. Recommend that Rankin County utilize the Noise Compatibility Report to enact zoning in the vicinity of the airport.

Yours very truly,

Morgan E. Williams
Executive Director

MEW:jd

Appendix D

JACKSON MUNICIPAL AIRPORT, MISSISSIPPI

APPENDIX D - Supplemental Letters

APR 26 '90 13:37 FAA/JAN-ADO P.9/10

U.S. Department of Transportation
Federal Aviation Administration

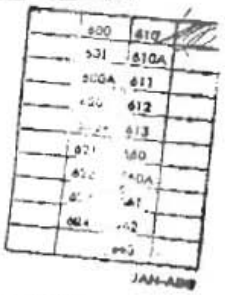
Memorandum

Subject: INFORMATION: FAR Part 150 Study, Jackson Thompson Field Airport

Date: AUG 3 1989

From: Manager, Air Traffic Division, ASO-500

Reply to Attn. of: Stokoe:7867



To: Manager, Jackson Airports District Office

We have reviewed the subject study and have comments and/or objections as outlined below. These comments are in reference to the elements listed in Section 8 of the study, Implementation Plan for Selected Noise Abatement Actions.

1. Runway 15R and 15L noise abatement departure flight paths. There is no mention in the study of applying these procedures only to turbojet or other large aircraft. If every aircraft was required to fly to I-20 (approximately 2½ NM) before making a turn, airport capacity would be adversely effected. The study indicates that the biggest problem is military aircraft making early turns. Therefore we propose that only turbojet and other aircraft weighing more that 12,500 pounds be required to proceed to I-20 or reaching 3,000 feet AMSL before making a turn.

2. North flow (33L/33R) preferential runway. The most precise instrument approach (ILS Cat IIIa) is established to runway 15L. Other instrument approaches, and navigational aids such as approach lights, have also been established with the idea that runway 15L/R is the preferred runway for use at Jackson. If runway 33L/R was made the preferred runway based only on wind conditions, the advantage of instrumentation to runway 15 would be lost. As discussed in the preceding paragraph, since the main problem seems to be early turns after departure, we see no real advantage to reversing the traffic flow at the airport, and object to this proposal.

3. Runway 15L/33R noise abatement touch-and-go flight paths. As stated in paragraph 1, we have no objection to the implementation of this procedure provided it is restricted to turbojet and other aircraft weighing more than 12,500 pounds.

4. Standard Instrument Departure (SID). We disagree that a new SID is necessary to implement the runway 15 departure flight paths. The current SID for Jackson states in part "...Climb on runway heading or as assigned for vectors to join filed route". At the request of the Airport Manager, the Manager, Jackson ATCT would issue a facility directive to keep departing turbojets and aircraft weighing more than 12,500 pounds on runway heading until reaching JAN 15 DME or 3,000 feet AMSL.

5. Tower aid for preferential runway implementation. The graphic aid would not be necessary if the preferred runway program is not implemented.

6. Letter to Airmen. We recommend that the letter be addressed to all pilots to inform them which areas are noise sensitive. Procedures outlined in paragraphs 1, 2, and 3 of the sample letter should only be addressed to pilots of turbojet and other aircraft weighing more than 12,500 pounds. Paragraphs 4 and 5 of the letter should be removed.

We greatly appreciate the opportunity to provide comments on this study. Any questions regarding our input should be addressed to Carl Stokoe, ASO-531.5, FTS 246-7867.

James L. Wright

James L. Wright

MAY 14 '90 10:54 FROM FAA AIRPORTS AS0600 PAGE.002

MAY 14 '90 09:15 FAA/JAN-ADO P.4/4

RECEIVED
AUG 21 1989
LPA Group Incorporated

MITCH CHILDRE
MAYOR

POST OFFICE BOX 5948
PEARL, MISSISSIPPI 39288-5948

ALDERMEN:
DEANNE ALLEN
MIKE CARR
KEITH DENNIS
DALE HARDY
LAWRENCE HARVEY
LONNIE JENKINS
DALE ZEIGERT

August 17, 1989

Mr. Paul S. Puckli
Director of Planning
LPA GROUP INCORPORATED
Post Office Box 22647
Tampa, FL 33622

Dear Mr. Puckli:

The City of Pearl has requested the technical assistance of Mr. Larry Smith and the staff of the Central Mississippi Planning and Development District to develop a comprehensive land use plan for the City of Pearl.

The development and implementation of said Plan is expected to take several months.

I look forward to working with you and the Jackson International Airport authority in developing a Plan which would best utilize the lands in and around the airport area to its highest and best use.

Sincerely yours,

Mitch Childre
Mayor

MC:bss

JAMES L. SPENCER
Attorney

MYRA DEW
Clerk/Tax Collector

BILLY E. BUSH
Fire Chief

KENNETH R. DUKES
Chief of Police

Town of Flowood

GARY L. RHOADS, Mayor
1ST AND OAK STREETS
★
P. O. BOX 5536 • FLOWOOD
FLOWOOD, MISSISSIPPI 39288-5536
(601) 939-4343

ALDERMEN

DONALD H. FLYNT
DERON R. HARMON
LARRY HOGUE
KENNETH R. MILLER
FRED WHITE

August 18, 1989

The LPA Group Incorporated
Airport Executive Center
P.O. Box 22647
Tampa, FL 33622

ATTN: Mr. Paul S. Puckli,
Director of Planning

RE: FAR Part 150 Noise Compatibility Study
Jackson, Mississippi Municipal Airport

Dear Mr. Puckli:

In response to your letter of June 21, 1989 regarding the referenced study, the Town of Flowood currently utilizes zoning regulations consistent with the Remedial Land Use Strategies as outlined in the aforementioned study. Article II Section 206.03 of our Existing Zoning Ordinance reads:

> In addition to complying with the provisions of this Ordinance, all lands adjacent to and within the area affected by the Jackson Municipal Airport shall also be subject to the Airport Zoning Regulations of the joint-City of Jackson, Hinds County, Rankin county Airport Zoning Board dated May 1, 1959, as amended. Any and all development and use of lands adjacent to and within the territory affected by the Jackson Municipal Airport shall conform to any and all regulations promulgated by any agency of the State of Mississippi or the United States Government, having proper authority therefor, that relate to the use and development of property in proximity to said airport.

The Town of Flowood fully intends to continue utilization the existing and other innovative land use strategies designed to improve the quality of life for its commercial, industrial, and residential sectors.

MAY 14 '90 10:55 FROM FAA AIRPORTS ASO600 PAGE.004

MAY 14 '90 09:15 FAA/JAN-ADO P.3/4

Paul S. Puckli
August 18, 1989
Page 2

We thank you for this opportunity for input to your study in providing the Town of Flowood with a safe and quality environment.

Sincerely,

Gary Rhoads

Gary Rhoads, Mayor

GR/mr

cc: Jeff Knight, P.E., Waggoner Engineering, Inc.

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Appendix B

FAA'S NOTIFICATION OF COMPLIANCE FOR 2003/2008 NOISE EXPOSURE MAPS

a system of records may be disclosed to anyone who is under contract to the Department of State to fulfill an agency function but only to the extent necessary to fulfill that function. Courts information from a system of records may be made available to any court of competent jurisdiction, whether Federal, state, local or foreign, when necessary for the litigation and adjudication of a case involving an individual who is the subject of a Departmental record.

National Archives, Government Services Administration

A record from a system of records may be disclosed as a routine use to the National Archives and Records Administration and the General Services Administration: for records management inspections, surveys and studies; following transfer to a Federal records center for storage; and to determine whether such records have sufficient historical or other value to warrant accessioning into the National Archives of the United States.

Routine Use Amendment 2

Department of Justice

A record may be disclosed as a routine use to any component of the Department of Justice, including United States Attorneys, for the purpose of representing the Department of State or any officer or employee of the Department of State in pending or potential litigation to which the record is pertinent.

[FR Doc. 04–21999 Filed 9–29–04; 8:45 am]
BILLING CODE 4710–24–P

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

Aviation Proceedings, Agreements Filed the Week Ending September 17, 2004

The following Agreements were filed with the Department of Transportation under the provisions of 49 U.S.C. 412 and 414. Answers may be filed within 21 days after the filing of the application.

Docket Number: OST–2004–19112.
Date Filed: September 13, 2004.
Parties: Members of the International Air Transport Association.
Subject:

PTC1 0300 dated 20 August 2004
TC1 Areawide Resolutions r1–r3, PTC1 0301 dated 20 August 2004
TC1 Caribbean Resolutions r4–r16
TC1 0302 dated 20 August 2004
TC1 Longhaul (except USA-Chile, Panama) Resolutions r17–r55
TC1 0303 dated 20 August 2004
TC1 Longhaul USA-Chile, Panama Resolutions r56–r70
PTC1 0304 dated 20 August 2004
TC1 Within South America Resolutions r71–r82

Intended effective date: 1 November 2004/1 January 2005.

Andrea M. Jenkins,
Program Manager, Docket Operations, Federal Register Liaison.
[FR Doc. 04–21979 Filed 9–29–04; 8:45 am]
BILLING CODE 4910–62–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Proposed Advisory Circular; Turbine Engine Repairs and Alterations—Approval of Technical and Substantiation Data

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of availability of proposed advisory circular and request for comments.

SUMMARY: This notice announces the availability and request for comments of draft Advisory Circular (AC), No. 33.XX, Turbine Engine Repairs and Alterations—Approval of Technical and Substantiation Data.

DATES: Comments must be received on or before January 28, 2005.

ADDRESSES: Send all comments on the proposed AC to the Federal Aviation Administration, Attn: Dorina Mihail, Engine and Propeller Standards Staff, ANE–110, Engine and Propeller Directorate, Aircraft Certification Service, 12 New England Executive Park, Burlington, MA, 01803–5299.

FOR FURTHER INFORMATION CONTACT: Dorina Mihail, Engine and Propeller Standards Staff, ANE–110, at the above address, telephone (781) 238–7153, fax (781) 238–7199. If you have access to the Internet, you may also obtain further information by writing to the following address: *Dorina.Mihail@faa.gov.*

SUPPLEMENTARY INFORMATION:

Comments Invited

You may obtain a copy of the draft AC by contacting the person named under **FOR FURTHER INFORMATION CONTACT**, of if using the Internet, you may obtain a copy at the following address: *http://www.airweb.faa.gov/rgl.* Interested persons are invited to comment on the proposed AC and to submit written data, views, or arguments. Commenters must identify the subject of the AC, and submit comments to the address specified above. The Engine and Propeller Directorate, Aircraft Certification Service, will consider all responses received on or before the closing date for comments before it issues the final AC.

We will also file in the docket all substantive comments received, and a report summarizing them. The docket is available for public inspection both before and after the comment date. If you wish to review the docket in person, you may go to the address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. If you wish to contact the above individual directly, you can use the above telephone number or e-mail address provided.

Background

This draft advisory circular (AC) would provide guidance and acceptable methods, but not the only methods that may be used to obtain Federal Aviation Administration (FAA) approval of technical data for turbine engine repairs and alterations in compliance with Title 14 of the Code of Federal Regulations (14 CFR part 33).

This advisory circular would be published under the authority granted to the Administrator by 49 U.S.C. 106(g), 40113, 44701–44702, 44704, and would provide guidance for the requirements in 14 CFR part 33.

Issued in Burlington, Massachusetts, on September 22, 2004.

Francis A. Favara,
Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.
[FR Doc. 04–21869 Filed 9–29–04; 8:45 am]
BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Noise Exposure Map Notice: Receipt of Noise Compatibility Program and Request for Review

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice.

SUMMARY: The Federal Aviation Administration (FAA) announces its determination that the noise exposure maps submitted by Jackson Municipal Airport Authority for Jackson International Airport under the provisions of 49 U.S.C. 47501 *et seq.* (Aviation Safety and Noise Abatement Act) and 14 CFR Part 150 are in compliance with applicable requirements. The FAA also announces that it is reviewing a proposed noise compatibility program that was submitted for Jackson International Airport under Part 150 in conjunction with the noise exposure map, and that this program will be approved or

disapproved on or before March 19, 2005.

DATES: The effective date of the FAA's determination on the noise exposure maps and of the start of its review of the associated noise compatibility program is September 21, 2004. The public comment period ends November 19, 2004.

FOR FURTHER INFORMATION CONTACT: Kristi Ashley, Jackson Airports District Office, 100 West Cross Street, Suite B, Jackson, MS 39208–2307, Telephone (601) 664–9891. Comments on the proposed noise compatibility program should also be submitted to the above office.

SUPPLEMENTARY INFORMATION: This notice announces that the FAA finds that the noise exposure maps submitted for Jackson International Airport are in compliance with applicable requirements of Part 150, effective September 21, 2004. Further, FAA is reviewing a proposed noise compatibility program for that airport which will be approved or disapproved on or before March 19, 2005. This notice also announces the availability of this program for public review and comment.

Under 49 U.S.C., section 47503 (the Aviation Safety and Noise Abatement Act, hereinafter referred to as "the Act"), an airport operator may submit to the FAA noise exposure maps which meet applicable regulations and which depict non-compatible land uses as of the date of submission of such maps, a description of projected aircraft operations, and the ways in which such operations will affect such maps. The Act requires such maps to be developed in consultation with interested and affected parties in the local community, government agencies, and persons using the airport.

An airport operator who has submitted noise exposure maps that are found by FAA to be in compliance with the requirements of Federal Aviation Regulations (FAR) Part 150, promulgated pursuant to the Act, may submit a noise compatibility program for FAA approval which sets forth the measures the operator has taken or proposes to take to reduce existing non-compatible uses and prevent the introduction of additional non-compatible uses.

Jackson Municipal Airport Authority submitted to the FAA on January 12, 2004 noise exposure maps, descriptions, and other documentation that were produced during the Part 150 Noise Study in October 2003. It was requested that the FAA review this material as the noise exposure maps, as described in section 47503 of the Act, and that the noise mitigation measures, to be implemented jointly by the airport and surrounding communities, be approved as a noise compatibility program under section 47504 of the Act.

The FAA has completed its review of the noise exposure maps and related descriptions submitted by Jackson Municipal Airport Authority. The specific documentation determined to constitute the noise exposure maps includes: current and forecast NEM graphics, plus all other narrative, graphic, or tabular representations of the data required by section A150.101 of Part 150, and sections 47503 and 47506 of the Act, more specifically considered by FAA to be Chapters 1 through 5 of the Airport Noise Compatibility Study Update submitted to FAA on January 12, 2004. The FAA has determined that these maps for Jackson International Airport are in compliance with applicable requirements. This determination is effective on September 21, 2004. FAA's determination on an airport operator's noise exposure maps is limited to a finding that the maps were developed in accordance with the procedures contained in appendix A of FAR Part 150. Such determination does not constitute approval of the applicant's data, information, or plans or constitute a commitment to approve a noise compatibility program or to fund the implementation of that program.

If questions arise concerning the precise relationship of specific properties to noise exposure contours depicted on a noise exposure map submitted under section 47503 of the Act, it should be noted that the FAA is not involved in any way in determining the relative locations of specific properties with regard to the depicted noise contours or in interpreting the noise exposure maps to resolve questions concerning, for example, which properties should be covered by the provisions of section 47506 of the Act. These functions are inseparable from the ultimate land use control and planning responsibilities of local government. These local responsibilities are not changed in any way under Part 150 or through FAA's review of noise exposure maps. Therefore, the responsibility for the detailed overlaying of noise exposure contours onto the map depicting properties on the surface rests exclusively with the airport operator that submitted those maps or with those public agencies and planning agencies with which consultation is required under section 47503 of the Act. The FAA has relied on the certification by the airport operator, under section 150.21 of FAR Part 150, that the statutorily required consultation has been accomplished. The FAA has formally received the noise compatibility program for Jackson International Airport, also effective on September 21, 2004. Preliminary review of the submitted material indicates that it conforms to the requirements for the submittal of noise compatibility programs but that further review will be necessary prior to approval or disapproval of the program. The formal review period, limited by law to a maximum of 180 days, will be completed on or before March 19, 2005.

The FAA's detailed evaluation will be conducted under the provisions of 14 CFR Part 150, section 150.33. The primary considerations in the evaluation process are whether the proposed measures may reduce the level of aviation safety, create an undue burden on interstate or foreign commerce, or be reasonably consistent with obtaining the goal of reducing existing non-compatible land uses and preventing the introduction of additional non-compatible land uses. Interested persons are invited to comment on the proposed program with specific reference to these factors. All comments, other than those properly addressed to local land use authorities, will be considered by the FAA to the extent practicable. Copies of the noise exposure maps, the FAA's evaluation of the maps, and the proposed noise compatibility program are available for examination at the following locations:

Federal Aviation Administration: Jackson Airports District Office, 100 West Cross Street, Suite B, Jackson, MS 39208–2307.

Jackson Municipal Airport Authority: 100 International Drive, Suite 300, Jackson, MS 39208–2394; Post Office Box 98109, Jackson, MS 39292–8109.

Questions may be directed to the individual named above under the heading, **FOR FURTHER INFORMATION CONTACT.**

Issued in Jackson, MS, September 21, 2004.

Rans D. Black,

Manager, Jackson Airports District Office.

(NOTE 1) March 19, 2005—This date will be 180 days from the date of signature of this Federal Register Notice.

(NOTE 2) September 21, 2004—Date of signature of this **Federal Register** Notice.

[FR Doc. 04–21868 Filed 9–29–04; 8:45 am]

BILLING CODE 4910–13–M

Appendix C
INTRODUCTION TO NOISE EVALUATION

Noise is a very complex physical quantity. The properties, measurement, and presentation of noise involve specialized terminology that is often difficult to understand. Throughout the Part 150 update, we will use graphics and everyday comparisons to communicate information on noise measurements, calculations of existing and forecast noise levels based on noise models, the effects of noise, and benefits of noise abatement measures.

To provide a basic reference on these technical issues, this appendix provides an introduction to fundamentals of acoustics and noise terminology (Section C.1), the effects of noise on human activity (Section A.2), and community annoyance (Section A.3).

C.1 INTRODUCTION TO ACOUSTICS AND NOISE TERMINOLOGY

Title 14 of the Code of Federal Regulations, Part 150 (14CFR Part 150 or just "Part 150") relies largely on a measure of the cumulative noise exposure caused by aircraft that operate over the course of an average day during a given year of interest; the metric is referred to as the Day-Night Average Sound Level (DNL). However, other measures are also helpful in explaining and understanding the elements of the noise environment that comprise the DNL around an airport. This appendix introduces the following acoustic metrics, which are all related to DNL, but provide bases for evaluating a broad range of noise situations:

- Decibel, dB
- A-Weighted Decibel, dBA
- Sound Exposure Level, SEL
- Equivalent Sound Level, L_{eq}
- Day-Night Average Sound Level, DNL

C.1.1 The Decibel, dB

All sounds come from a sound source – a musical instrument, a voice speaking, or an airplane as it flies overhead. It takes energy to produce sound. The sound energy produced by any sound source is transmitted through the air in sound waves – tiny, quick oscillations of pressure just above and just below atmospheric pressure. These oscillations, or sound pressures, impinge on the ear, creating the sound we hear.

Our ears are sensitive to a wide range of sound pressures. The loudest sounds that we hear without pain have about one million times more energy than the quietest sounds we hear. But our ears are incapable of detecting small differences in these pressures. Thus, to better match how we hear this sound energy, the total range of sound pressures is compressed to a more meaningful range by introducing the concept of sound pressure level (SPL). Sound pressure level is a measure of the sound pressure of a given noise source relative to a standard reference value (typically the quietest sound that a young person with good hearing can detect). Sound pressure levels are measured in decibels (abbreviated dB). Decibels are logarithmic quantities – logarithms of the ratio of the two pressures, the numerator being the pressure of the sound source of interest, and the denominator being the reference pressure (the quietest sound we can hear).

The logarithmic conversion of sound pressure to sound pressure level means that the quietest sound we can hear (the reference pressure) has a sound pressure level of about zero decibels,

while the loudest sounds we hear without pain have sound pressure levels of about 120 dB. Most sounds in our day-to-day environment have sound pressure levels from 30 to 100 dB.

Because decibels are logarithmic quantities, they do not behave like regular numbers with which we are more familiar. For example, if two sound sources each produce 100 dB and they are operated together, they produce only 103 dB – not 200 dB as we might expect. Four equal sources operating simultaneously result in a total sound pressure level of 106 dB. In fact, for every doubling of the number of equal sources, the sound pressure level goes up another three decibels. A tenfold increase in the number of sources makes the sound pressure level go up 10 dB. A hundredfold increase makes the level go up 20 dB, and it takes a thousand equal sources to increase the level 30 dB!

It is also true that if one source is much louder than another, the two sources together will produce the same sound pressure level (and sound to our ears) as if the louder source were operating alone. For example, a 100 dB source plus an 80 dB source produce 100 dB when operating together. The louder source “masks” the quieter one, but if the quieter source gets louder, it will have an increasing effect on the total sound pressure level. When the two sources are equal, as described above, they produce a level three decibels above the sound of either one by itself.

From these basic concepts, note that one hundred 80 dB sources will produce a combined level of 100 dB; if a single 100 dB source is added, the group will produce a total sound pressure level of 103 dB. Clearly, the loudest source has the greatest effect on the total.

C.1.2 A-weighted Decibels, dBA

Another important characteristic of sound is its frequency, or "pitch". This is the rate of repetition of the sound pressure oscillations as they reach our ear. Formerly expressed in cycles per second, frequency is now expressed in units known as Hertz (Hz).

Most people hear from about 20 Hz to about 10,000 to 15,000 Hz. People respond to sound most readily when the predominant frequency is in the range of normal conversation, around 1,000 to 2,000 Hz. Acousticians have developed "filters" to match our ears' sensitivity and help us to judge the relative loudness of sounds made up of different frequencies. The so-called "A" filter does the best job of matching the sensitivity of our ears to most environmental noises. Sound pressure levels measured through this filter are referred to as A-weighted decibels (abbreviated as dBA). A-weighting significantly de-emphasizes noise at low and high frequencies (below about 500 Hz and above about 10,000 Hz) where we do not hear as well. Because this filter generally matches our ears' sensitivity, sounds having higher A-weighted sound levels are usually judged to be louder than those with lower A-weighted sound levels, a relationship which does not always hold true for unweighted levels. It is for these reasons that A-weighted sound levels are normally used to evaluate environmental noise.

Other weighting networks include the B, and C filters. They correspond to four different level ranges of the ear. The rarely used B-weighting attenuates low frequencies (those less than 500 Hz), but to a lesser degree than A-weighting. C-weighting is nearly flat throughout the audible frequency range, hardly de-emphasizing low frequency noise. C-weighted levels can be preferable in evaluating sounds whose low-frequency components are responsible for secondary effects such as the noise-induced vibrations affecting a building -- window rattle, or perceptible vibrations. Uses include the evaluation of blasting noise, artillery fire, and in some cases, aircraft noise inside buildings.

Figure C-1 compares these various weighting networks.

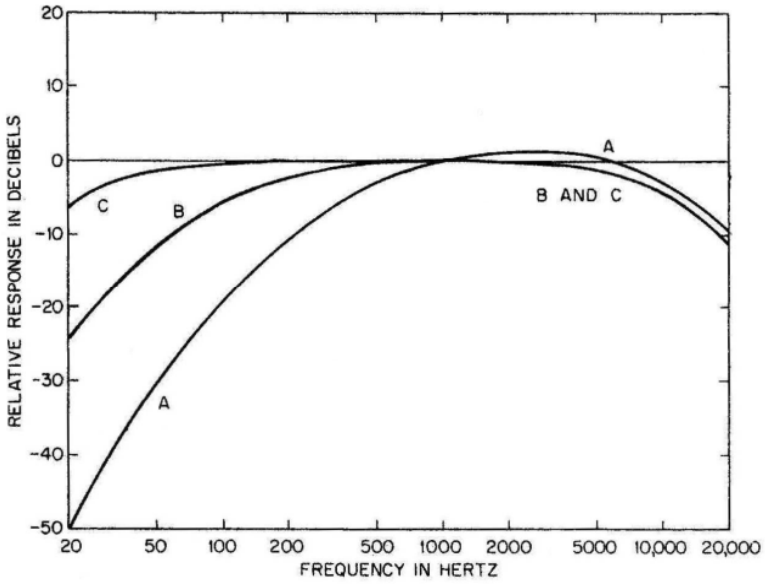


Figure C-1 Frequency Response Characteristics of Various Weighting Networks

Source: Harris, Cyril M., editor; Handbook of Acoustical Measurements and Noise Control, (Chapter 5, "Acoustical Measurement Instruments"; Johnson, Daniel L.; Marsh, Alan H.; and Harris, Cyril M.); New York; McGraw-Hill, Inc.; 1991; p. 5.13

Because of the correlation with our hearing, the A-weighted level has been adopted as the basic measure of environmental noise by the U.S. Environmental Protection Agency (EPA) and by nearly every other federal and state agency concerned with community noise. Part 150 requires airports to use A-weighted noise metrics. Figure C-2 presents typical A-weighted sound levels of several common environmental sources.

Though the chart below and discussion above may not imply it, A-weighted sound levels in our environment vary over time as different sound sources occur throughout the day and night; sometimes the levels are caused by aircraft, sometimes by passing trucks or automobiles, or sometimes by children playing outdoors. Figure C-3 presents a noise event that is representative of an aircraft flyover and shows how noise levels may change over the course of the event.

C.1.3 Maximum A-Weighted Noise Level, L_{max}

The variation in sound level over time often makes it convenient to describe a particular noise "event" by its maximum sound level, abbreviated as $L_{max.}$ In Figure C-3, it is approximately 85 dB.

The maximum level describes only one dimension of an event; it provides no information on the cumulative noise exposure. In fact, two events with identical maxima may produce very different total exposures. One may be of very short duration, while the other may continue for an extended period and be judged much more annoying. The Sound Exposure Level metric corrects for this deficiency.

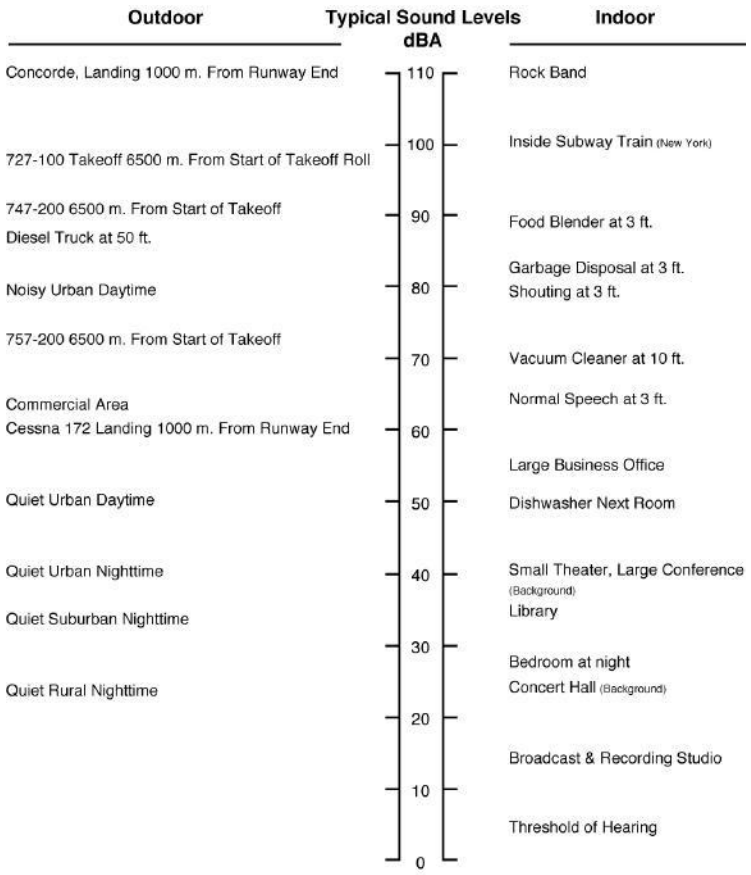


Figure C-2 Common Environmental Sound Levels, in dBA

Source: HMMH (Aircraft noise levels from FAA Advisory Circular 36-3G)

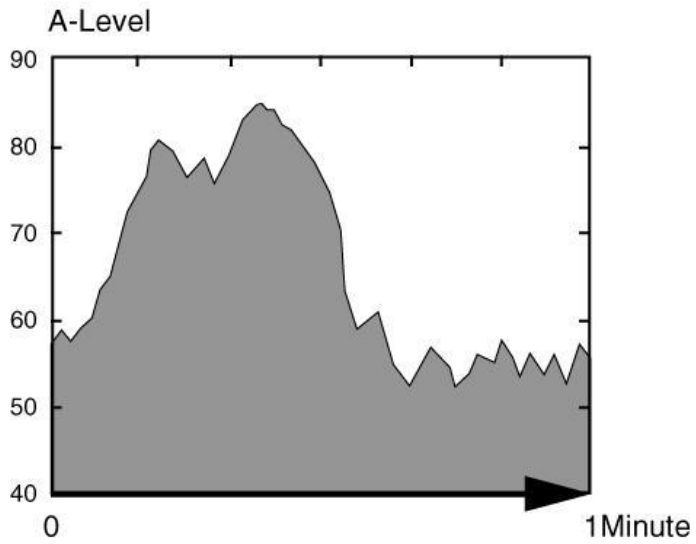


Figure C-3 Variations in the A-Weighted Sound Level Over Time

Source: HMMH

C.1.4 Sound Exposure Level, SEL

The most frequently used measure of noise exposure for an individual aircraft noise event (and the measure that Part 150 specifies for this purpose) is the Sound Exposure Level, or SEL. SEL is a measure of the total noise energy produced during an event, from the time when the A-weighted sound level first exceeds a threshold level (normally just above the background or ambient noise) to the time that the sound level drops back down below the threshold. To allow comparison of noise events with very different durations, SEL "normalizes" the duration in every case to one second; that is, it is expressed as the steady noise level with just a one-second duration that includes the same amount of noise energy as the actual longer duration, time-varying noise. In lay terms, SEL "squeezes" the entire noise event into one second.

Figure C-4 depicts this transformation. The shaded area represents the energy included in an SEL measurement for the noise event, where the threshold is set to 60 dBA. The darkly shaded vertical bar, which is 90 dB high and just one second long (wide), contains exactly the same sound energy as the full event.

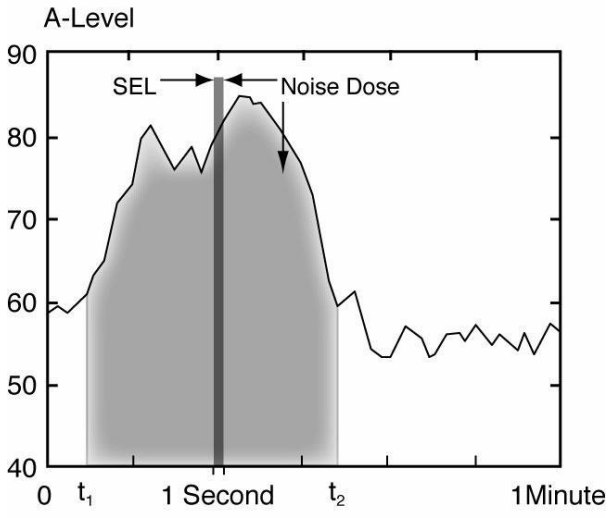


Figure C-4 Sound Exposure Level

Source: HMMH

Because SEL is normalized to one second, it will always be larger than the L_{max} for events longer than one second. In this case, the SEL is 90 dB; the L_{max} is approximately 85 dB. For most aircraft overflights, the SEL is on the order of 7 to 12 dB higher in value than the associated L_{max}. Because SEL takes duration into account, longer exposure to relatively slow, quite aircraft, such as propeller models, can have the same or higher SEL than shorter exposure to faster, louder planes, such as corporate jets. Aircraft noise models use SEL as the basis for computing exposure from multiple events, as in computing Day-Night Average Sound Level, DNL

C.1.5 Equivalent Sound Level, L_{eq}

The L_{max} and SEL quantify the noise associated with individual events. The remaining metrics in this section describe longer-term cumulative noise exposure that can include many events.

The Equivalent Sound Level (L_{eq}), is a measure of exposure resulting from the accumulation of A-weighted sound levels over a particular period of interest; for example, an hour, an eight hour school day, nighttime, or a full 24-hour day. Because the length of the period can differ, the applicable period should always be identified or clearly understood when discussing the metric. Such durations are often identified through additional notation, for example $L_{eq}(8)$ or $L_{eq}(24)$.

L_{eq} is equivalent to the constant sound level over a period of interest that contains as much sound energy as the actual time-varying level. This is illustrated in Figure C-5. Both the solid and striped shaded areas have a one-minute L_{eq} value of 76 dB. Note, however, that the two signals (the constant one and the time-varying one) will sound very different.

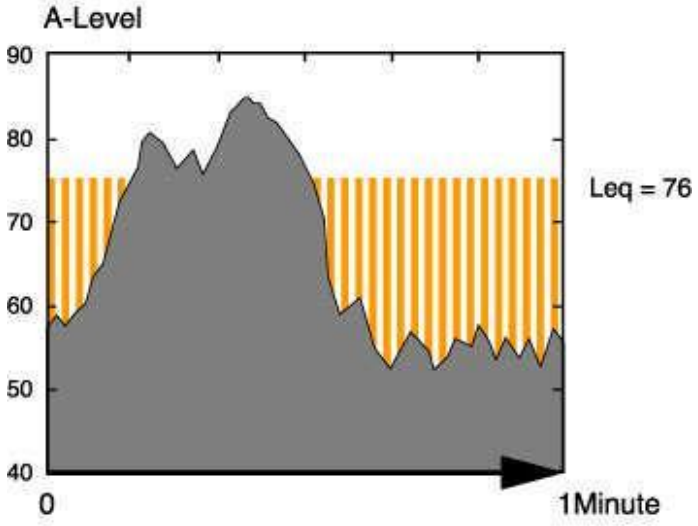


Figure C-5 Example of a One Minute Equivalent Sound Level

Source: HMMH

Also, the "average" sound level suggested by L_{eq} is not an arithmetic value, but a logarithmic, or "energy-averaged" sound level. Thus, loud events dominate L_{eq} measurements.

In airport noise studies, L_{eq} is often presented for consecutive one-hour periods to illustrate how the exposure rises and falls throughout a 24-hour period, and how individual hours are affected by unusual activity, such as rush hour traffic or a few loud aircraft.

C.1.6 Day-Night Average Sound Level, DNL

FAA requires that airports use a slightly more complicated measure of noise exposure to describe cumulative noise exposure during an average annual day: the Day-Night Average Sound Level, DNL. The U.S. Environmental Protection Agency identified DNL as the most appropriate means of evaluating airport noise based on the following considerations (from "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," U. S. EPA Report No. 550/9-74-004, March 1974):

1 The measure should be applicable to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time.
2 The measure should correlate well with known effects of the noise environment and on individuals and the public.
3 The measure should be simple, practical and accurate. In principal, it should be useful for planning as well as for enforcement or monitoring purposes.
4 The required measurement equipment, with standard characteristics, should be commercially available.
5 The measure should be closely related to existing methods currently in use.
6 The single measure of noise at a given location should be predictable, within an acceptable tolerance, from knowledge of the physical events producing the noise.

7 The measure should lend itself to small, simple monitors, which can be left unattended in public areas for long periods of time.

Most federal agencies dealing with noise have formally adopted DNL. The Federal Interagency Committee on Noise (FICON) reaffirmed the appropriateness of DNL in 1992. The FICON summary report stated; "There are no new descriptors or metrics of sufficient scientific standing to substitute for the present DNL cumulative noise exposure metric."

The DNL represents A-weighted noise as it occurs over a 24-hour period, with on important exception: DNL treats nighttime noise differently from daytime noise. In determining DNL, it is assumed that the A-weighted levels occurring at night (defined as 10 p.m. to 7 a.m.) are 10 dB louder than they really are. This 10 dB penalty is applied to account for greater sensitivity to nighttime noise, and the fact that events at night are often perceived to be more intrusive because nighttime ambient noise is less than daytime ambient noise.

Figure C-3 illustrated the A-weighted sound level due to an aircraft fly-over as it changed with time. The top frame of Figure C-6 repeats this figure. The shaded area reflects the noise dose that a listener receives during the one-minute period of the sample. The center frame of Figure C-6 includes this one minute sample within a full hour. The shaded area represents the noise during that hour with 16 noise events, each producing an SEL. Similarly, the bottom frame includes the one-hour interval within a full 24 hours. Here the shaded area represents the listener's noise dose over a complete day. Note that several overflights occur at when the background noise drops some 10 dB, to approximately 45 dBA.

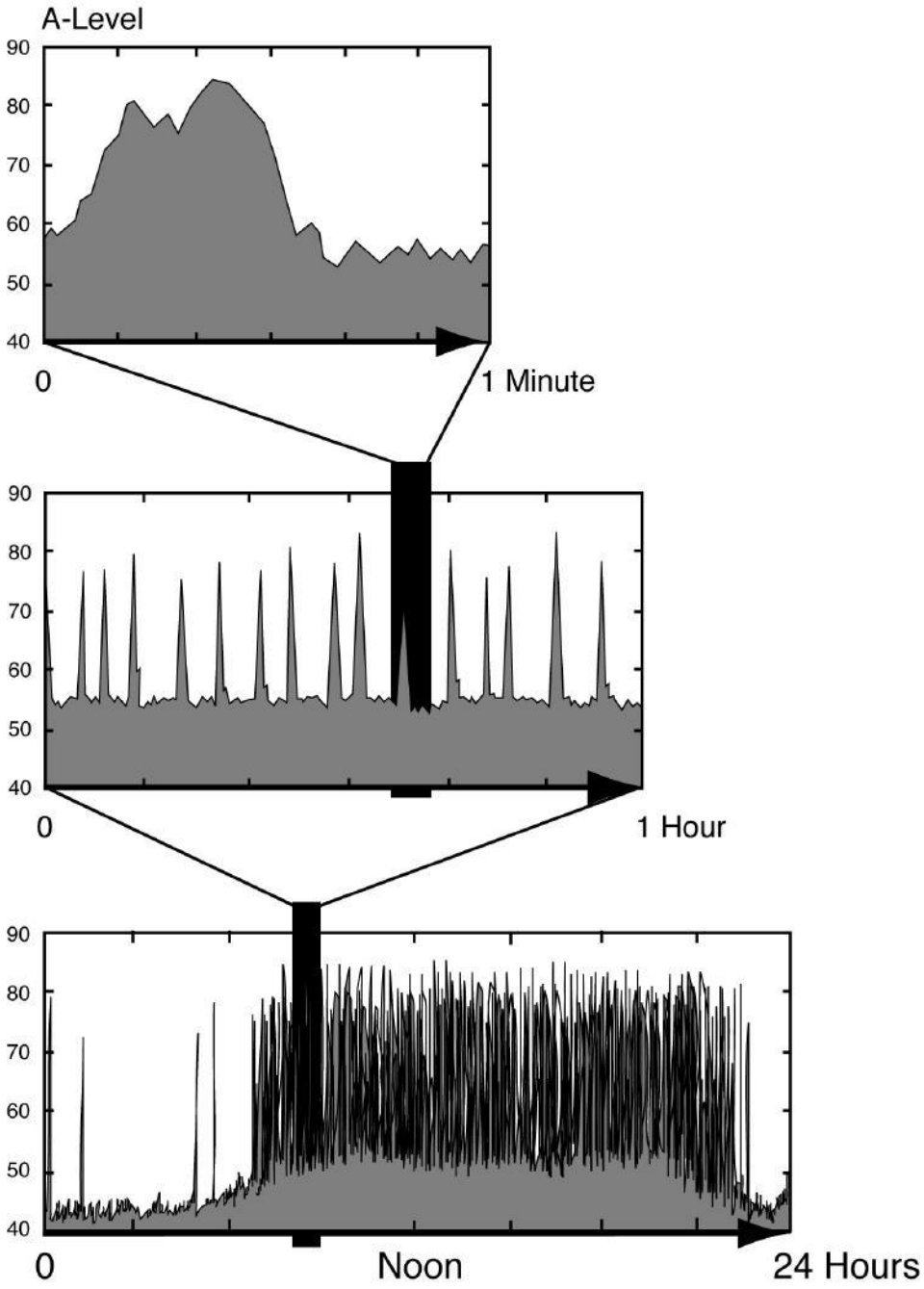


Figure C-6 Daily Noise Dose

Source: HMMH

DNL can be measured or estimated. Measurements are practical only for obtaining DNL values for relatively limited numbers of points, and, in the absence of a permanently installed monitoring system, only for relatively short time periods. Most airport noise studies are based on computer-generated DNL estimates, determined by accounting for all of the SELs from individual events which comprise the total noise dose at a give location. Computed DNL values are often depicted in terms of equal-exposure noise contours (much as topographic maps have contours of equal elevation). 14 CFR Part 150 requires that the 65, 70 and 75 dB DNL contours be modeled and Figure C-7 depicts typical DNL values for a variety of noise environments.

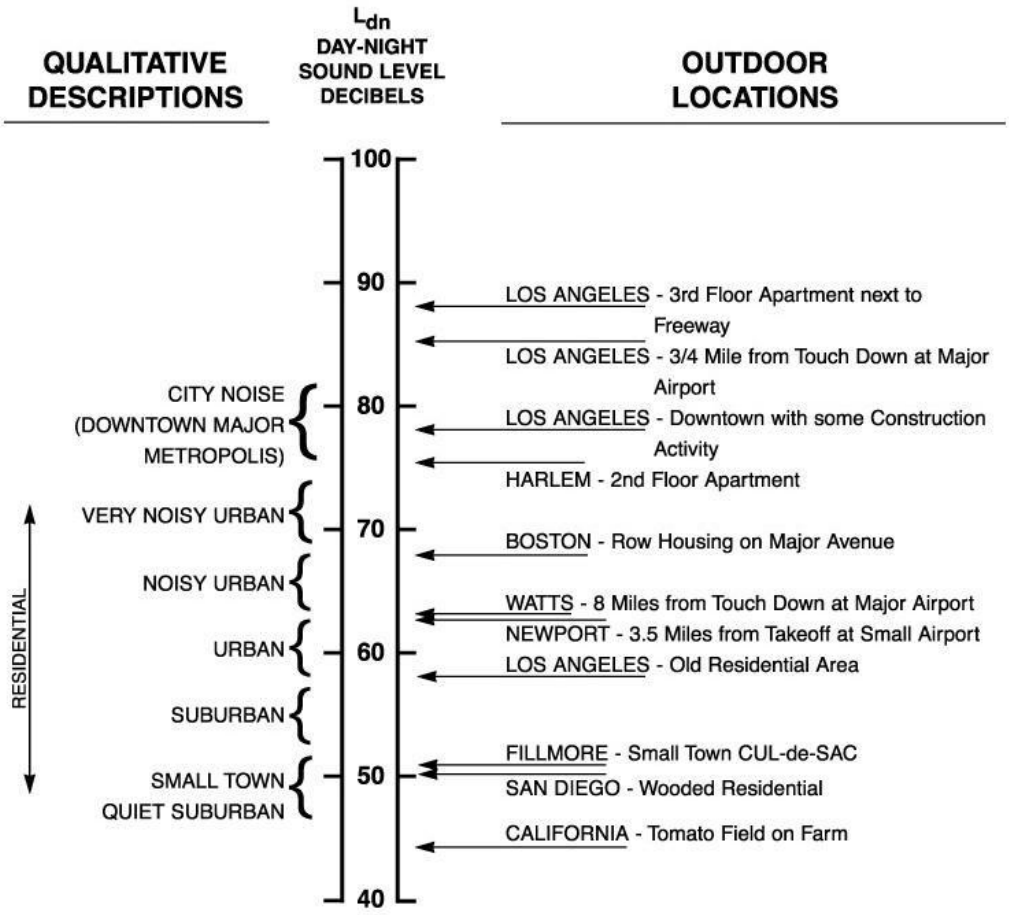


Figure C-7 Examples of Day-Night Average Sound Levels, DNL

Source: United States Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, March 1974, p. 14.

C.1.7 Statistical Noise Metrics, Lx

Statistical descriptors of the time-varying sound level are often used instead of, or in addition to L_{eq} to provide more information about how the sound level varied during the time period of interest. The descriptor includes a subscript that indicates the percentage of time the sound level is exceeded during the period. The L_{50} is an example, which represents the sound level exceeded 50 percent of the time, and equals the median sound level. Another commonly used descriptor is the L_{10}, which represents the sound level exceeded 10 percent of the measurement period and describes the sound level during the louder portions of the period. The L_{90} is often used to describe the quieter background sound levels that occurred, since it represents the level exceeded 90 percent of the period.

C.2 THE EFFECTS OF AIRCRAFT NOISE ON PEOPLE

To residents around airports, aircraft noise can be an annoyance and a nuisance. It can interfere with conversation and listening to television, it can disrupt classroom activities in schools, and it

can disrupt sleep. Relating these effects to specific noise metrics helps in the understanding of how and why people react to their noise environment.

C.2.1 Speech Interference

A primary effect of aircraft noise is its tendency to drown out or "mask" speech, making it difficult to carry on a normal conversation. The sound level of speech decreases as the distance between a talker and listener increases. As the background sound level increases, it becomes harder to hear speech. Figure C-8 presents typical distances between talker and listener for satisfactory outdoor conversations, in the presence of different steady A-weighted background noise levels for raised, normal, and relaxed voice effort. As the background level increases, the talker must raise his/her voice, or the individuals must get closer together to continue talking.

As indicated in the figure, "satisfactory conversation" does not always require hearing every word; 95% intelligibility is acceptable for many conversations. Listeners can infer a few unheard words when they occur in a familiar context. However, in relaxed conversation, we have higher expectations of hearing speech and require generally require closer to 100% intelligibility. Any combination of talker-listener distances and background noise that falls below the bottom line in Figure C-8 (thus assuring 100% intelligibility) represents an ideal environment for outdoor speech communication and is considered necessary for acceptable indoor conversation as well.

One implication of the relationships in Figure C-8 is that for typical communication distances of 3 or 4 feet (1 to 1.5 meters), acceptable outdoor conversations can be carried on in a normal voice as long as the background noise outdoors is less than about 65 dBA. If the noise exceeds this level, as might occur when an aircraft passes overhead, intelligibility would be lost unless vocal effort were increased or communication distance were decreased.

Indoors, typical distances, voice levels, and intelligibility expectations generally require a background level less than 45 dBA. With windows partly open, housing generally provides about 10-15 dBA of interior-to-exterior noise level reduction. Thus, if the outdoor sound level is 60 dBA or less, there a reasonable chance that the resulting indoor sound level will afford acceptable conversation inside. With windows closed, 25 dB of attenuation is typical.

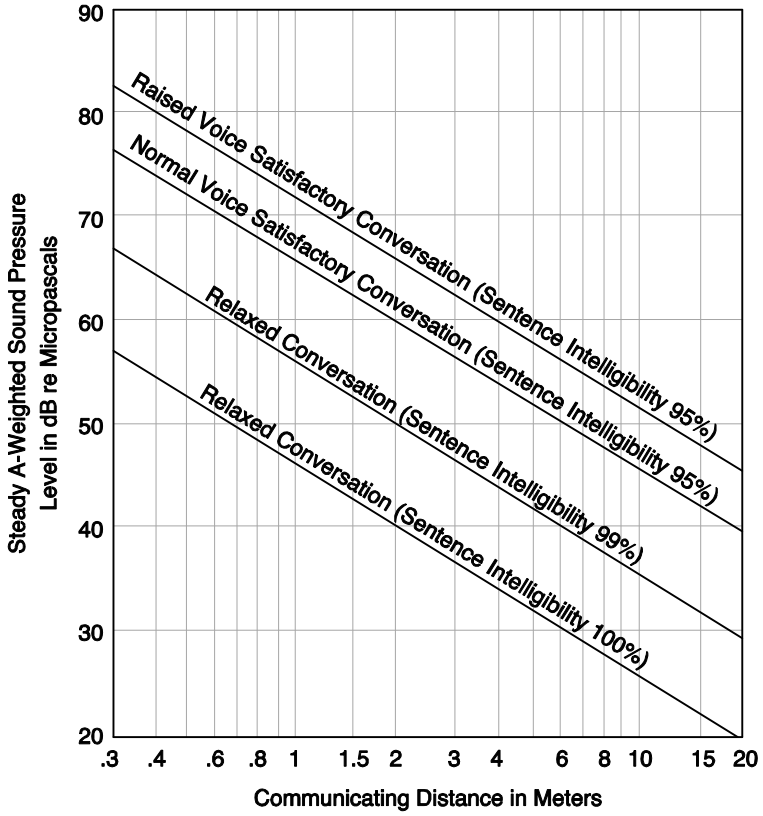


Figure C-8 Outdoor Speech Intelligibility

Source: United States Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, March 1974, p. D-5.

C.2.2 Sleep Interference

Research on sleep disruption from noise has led to widely varying observations. In part, this is because (1) sleep can be disturbed without awakening, (2) the deeper the sleep the more noise it takes to cause arousal, (3) the tendency to awaken increases with age, and other factors.

Figure C-9 shows a recent summary of findings on the topic.

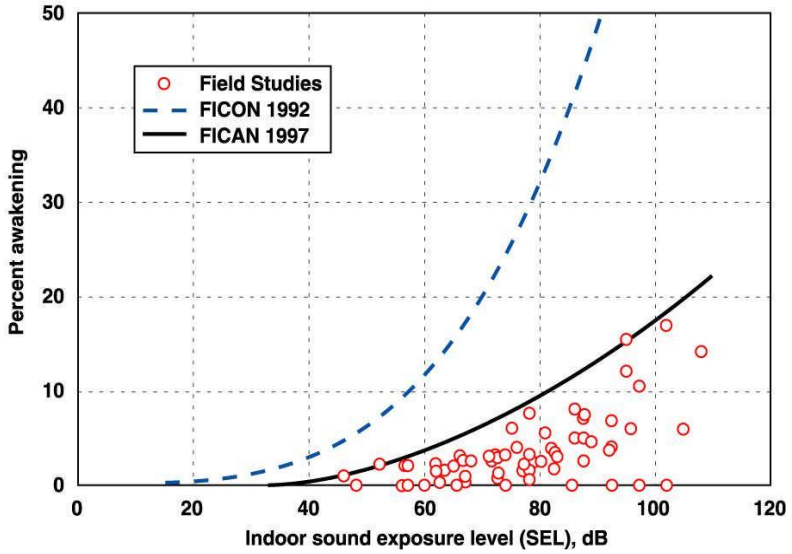


Figure C-9 Sleep Interference

Source: Federal Interagency Committee on Aviation Noise (FICAN), "Effects of Aviation Noise on Awakenings from Sleep", June 1997, page 6.

Figure C-9 uses indoor SEL as the measure of noise exposure; recent work supports the use of this metric in assessing sleep disruption. However, awakening data presented in the form of Figure C-9 apply to only one noise event; it says nothing about what happens with a full night of noise events of different levels. The American National Standards Institute (ANSI) has published a standard that provides a method for estimating the number of people awakened at least once from a full night of noise events: ANSI/ASA S12.9-2008 / Part 6, "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 6: Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes." This method can use the information on single events computed by a program such as the FAA's Integrated Noise Model, to compute awakenings. Results can be tabulated in numbers of people or turned into contours of percent of people awakened at least once, as in Figure C-10

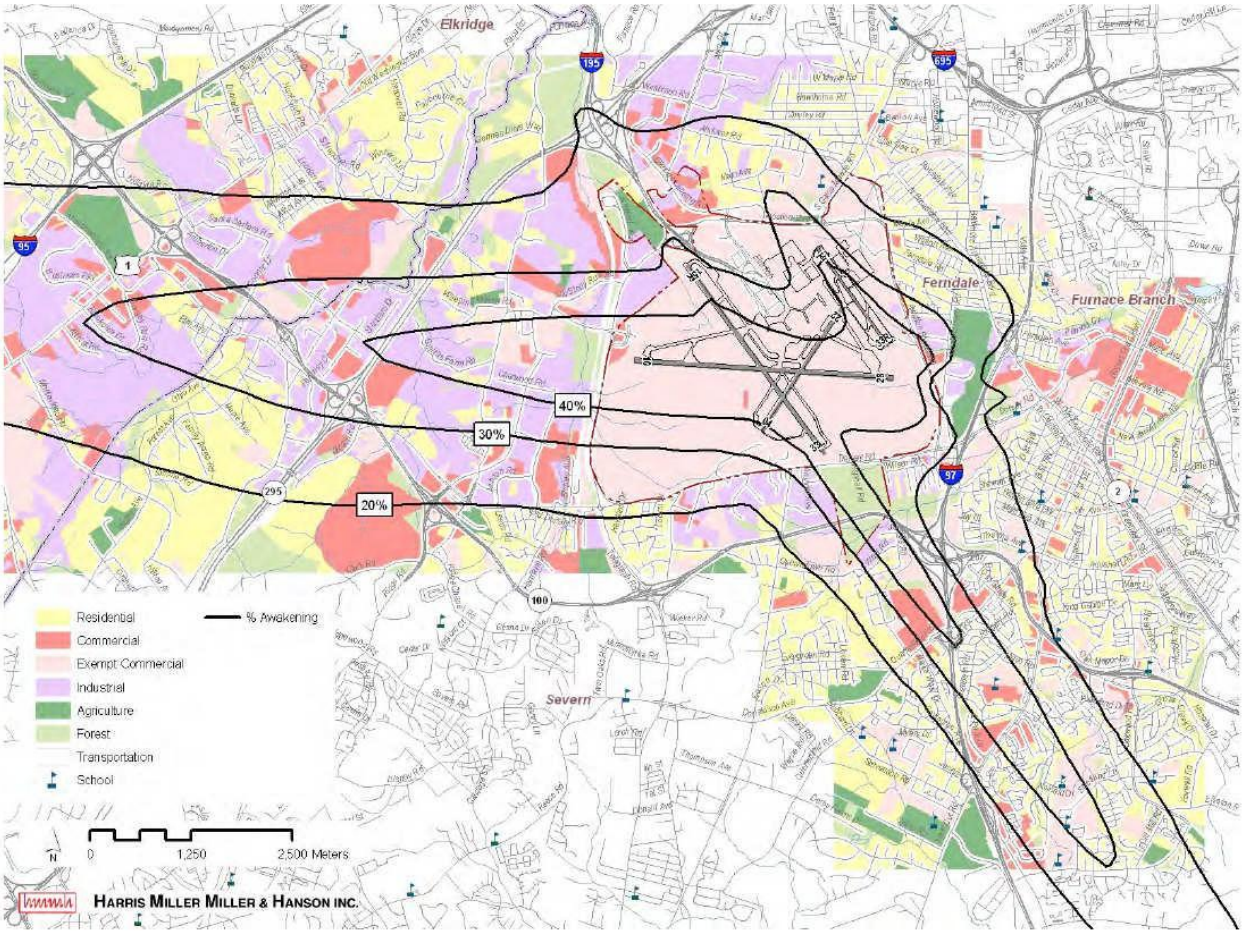


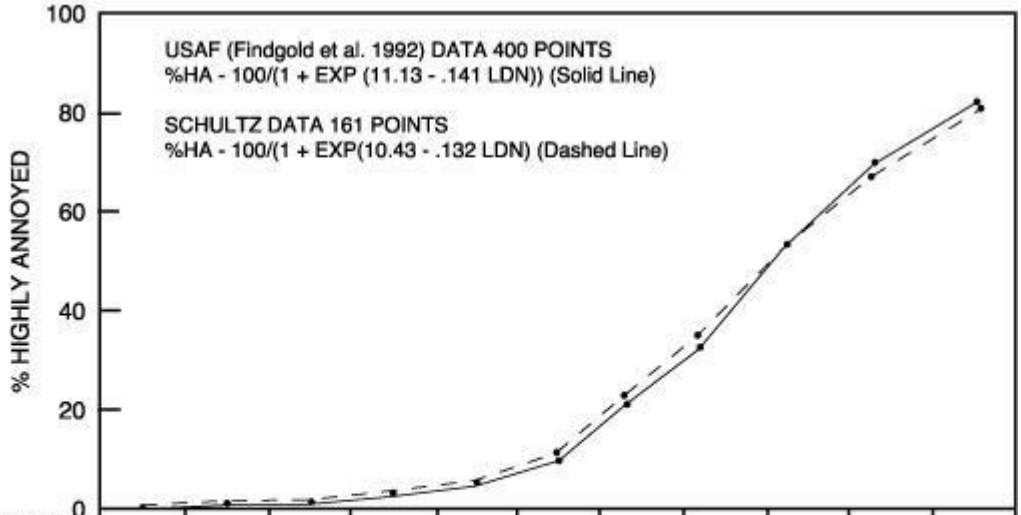
Figure C-10 Contours Showing Percent of People Awakened at Least Once During the Night

Source: Eagan, M.E., "Using Supplemental Metrics to Communicate Aircraft Noise Effects," in "Environmental Issues," Transportation Research Record: Journal of the Transportation Research Board, ISSN 0361-1981, Issue 2011, 2007.

C.3 COMMUNITY ANNOYANCE

Numerous psychoacoustic surveys provide substantial evidence that individuals' reactions to noise vary widely for a given noise exposure level. However, since the early 1970's, researchers have determined and subsequently confirmed that a community's aggregate response is generally predictable and relates reasonably well to measures of cumulative noise exposure such as DNL. Figure C-11 shows the most widely recognized relationship between environmental noise and annoyance.

Based on data from surveys conducted worldwide, the curve indicates that at levels as low as DNL 55, approximately five percent of the people will still be highly annoyed, with the percentage increasing more rapidly as exposure increases above DNL 65.



Day - Night Average Sound Level in dB		40	45	50	55	60	65	70	75	80	85	100
Calculated %HA Points	USAF	0.41	0.831	1.66	3.31	6.48	12.29	22.1	36.47	53.74	70.16	82.64
	SCHULTZ	0.576	1.11	2.12	4.03	7.52	13.59	23.32	37.05	53.25	68.78	81

Figure C-11 Percentage of People Highly Annoyed

Source: Federal Interagency Committee on Noise. *Federal Agency Review of Selected Airport Noise Analysis Issues*. August 1992. (From data provided by USAF Armstrong Laboratory). pp. 3-6.

Separate work by the EPA has shown that overall community reaction to a noise environment can also be related to DNL. This relationship is shown in Figure C-12. Levels have been normalized to the same set of exposure conditions to permit valid comparisons between ambient noise environments. Data summarized in the figure suggest that little reaction would be expected for intrusive noise levels five decibels below the ambient, while widespread complaints can be expected as intruding noise exceeds background levels by about five decibels. Vigorous action is likely when the background is exceeded by 20 dB.

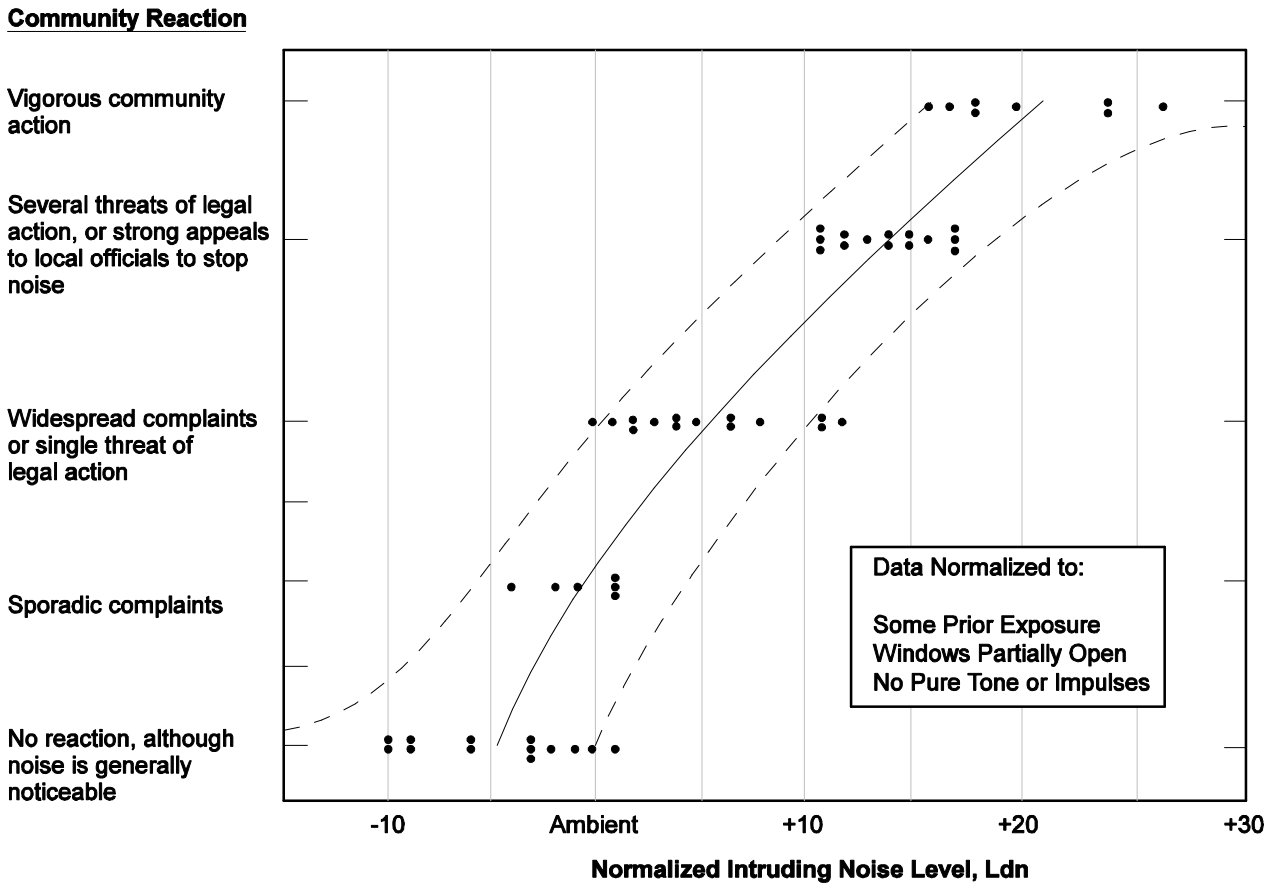


Figure C-12 Community Reaction as a Function of Outdoor DNL

Source: U.S. EPA, "Community Noise," NTID300.3, December 1971, derived from Figure 25, page 63.

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Appendix D
JACKSON ATC TOWER LETTER TO AIRMEN NO. 09-1 NOISE ABATEMENT PROCEDURES

ATTACHMENT 3

Department of Transportation

Federal Aviation Administration

Jackson ATC Tower
P.O. Box 98145
Jackson, Mississippi 39298

ISSUED: February 1, 2009 EFFECTIVE: February 15, 2009

JACKSON ATC TOWER LETTER TO AIRMEN NO. 09-1

SUBJECT: NOISE ABATEMENT PROCEDURES AT JACKSON-EVERS INTERNATIONAL AIRPORT

CANCELLATION: February 15, 2011

This Notice to Airmen restates procedures currently in effect.

BACKGROUND:

On May 2, 1988, a Part 150 Noise Compatibility Study was completed and forwarded to the Jackson Municipal Airport Authority. Two actions suggested in the Part 150 study have been implemented by the Jackson Air Traffic Control Tower as directed by the Record of Approval received in this office in September 1988.

NOISE ABATEMENT PROCEDURES:

- Noise abatement procedures apply to all turbojet aircraft and any aircraft weighing more than 12,500 lbs.
- Runway 16L/34R departure flight path- "fly runway heading until reaching the JAN 15.6 DME or as directed by ATC".
- Touch-and-go flight paths- "downwind legs east of the airport should be flown east of the Crossgates Lake/Rankin Hospital area". "Turns from downwind to base leg for the final approach to runway 34L or 34R should be made south of the Interstate (I-20)".

/S/

Oscar Branch
Air Traffic Manager
Jackson ATC Tower

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Appendix E
NOISE MEASUREMENTS

This section provides a brief site-by-site discussion of each monitoring location. Measurement results reported for each location include levels associated with individual aircraft operations. Single-event noise levels were recorded in terms of their maximum A-weighted sound levels, or L_{max}.

Each site discussion includes figures that graphically present hourly equivalent sound level (L_{eq}) results in two formats: (1) for the full period of measurement, overlaid with the L1, L10 and L90 data and (2) the average L_{eq} of each hour over several days of monitoring. L1 represents the noise level that was exceeded for only one percent of the time. In terms of time, this equates to 36 seconds out of a one-hour period and usually corresponds to the loudest noise event(s) for that hourly interval. L10 and L90 are discussed in Appendix C. The hours indicated on the figures represent the starting time of the measurement interval; e.g., hour 6 is the hour starting at 6 a.m. The figures use a 24-hour clock, where the hour starting at 1 p.m. is hour 13; 2 p.m. is hour 14, through the hour starting at 11 p.m., which is hour 23. Most of these plots show hour 18, which is the hour starting at 6 p.m.

The L_{max} measurements provide one of the easier bases for comparing the loudest sound levels produced by aircraft and non-aircraft sources at any given site, and for comparing single-event levels among sites. As discussed previously, aircraft operations were correlated with measured levels based on flight operations data from a data source that provided flight track information throughout the monitoring period. The data source also provided identification information for aircraft operating under an Instrument Flight Rules (IFR) "flight plan" filed with the FAA.

The monitors were set to automatically identify a "noise event" – regardless of source – when the measured level exceeded a preset decibel threshold for at least five seconds. These thresholds were selected on a site-specific basis to capture as many noise events as feasible; i.e., as low as possible without being so low that background noise would cause events to merge together. The decibel threshold was set at 60 dBA at Sites 1, 3, 5 and 6, and 55 dBA at Sites 2, 4, 7 and 8. During periods when an observer was logging events at a site, the maximum level was read directly from the monitor display regardless of duration; i.e., for events which never exceeded 60 or 55 dBA.

For each measurement location, a table has been created to illustrate the number of events with varying L_{max} ranges. The ranges of L_{max} values for the various noise sources are on the right, and can be compared to the various sources presented in Appendix C, Figure C-2. The reported noise levels start at 65 dBA, which is about the level that would interfere with normal outdoor conversation with the speaker and listener about 3 feet apart. Exterior noise levels around 75 dBA could start to interfere with an indoor conversation if the windows are open. Finally, exterior noise levels at and above 85 dBA could interfere with an indoor conversations with windows closed, although this is very dependent on the level of sound reduction provided by the structure.

The left side presents various noise sources observed, with the top six categories representing aircraft events, including a summary of all aircraft events. The aircraft categories include noise events that could be confidently associated with radar data or were observed. For simplicity, operations associated with Runway 16L and Runway 16R are grouped together and likewise operations associated with Runway 34L and Runway 34R are grouped together. The non-aircraft noise sources include: Lawn Equipment; Wildlife; Nature; Vehicle Traffic; Weather; and Other Non-Aircraft Noise Sources. These only include noise events that were observed and logged by a person. There were unidentified noise sources that included unobserved non-aircraft noise

sources, unobserved aircraft noise events not correlated with radar data, and observed events that included both aircraft and non-aircraft noise. The tables for all sites are organized the same to allow easy comparison between sites.

E.1 SITE 1: JACKSON PREPARATORY SCHOOL, FLOWOOD, MS

Site 1 is located approximately 0.7 miles west of the extended centerline of Runway 16R/34L, approximately 1.75 miles northwest from the departure end of Runway 16R. The monitor was situated on the side of an access road that wrapped around to the back of the school yard away from the main parking lot and school traffic. Since the regular school year was not in session, there was much less activity on the grounds, aside from maintenance work such as lawn mowing. Large trees and a heavily wooded-area were on one side of the access road that extended off of Lakeland Drive. The other side of the road consisted of open parking lots, a ball field, and a grassy area. The monitor was set about 500 feet back from the main road. Road vehicle traffic contributed the majority of the background noise and events. The objective for this site was to measure northerly aircraft arrivals to and departures from the west runway (Runway 16R/34L).

Table E-1 presents the L_{max} distribution for various noise sources. No visual confirmation was made for any aircraft events while observing at this site. Figure E-1 shows the hourly variation of noise from all noise sources during the period of the noise measurements.

Approximately 54 hours of monitoring were conducted at Site 1. As shown in Figure E-2, the average daily variation in hourly L_{eq} ranged from approximately 55 to 79 dBA. The estimated DNL value for this site was 68 dB, the highest out of all the measurement sites.

Table E-1 Site 1 Distribution of Maximum Sound Levels

Address: Jackson Preparatory School, Flowood, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	0	0	0	0	0
	Runway 34L/34R	0	2	1	0	0
Aircraft Arrivals	Runway 16L/16R	0	14	16	3	2
	Runway 34L/34R	0	0	0	0	0
Other Aircraft[1]		0	10	9	3	1
Total Aircraft Count		0	26	26	6	3
Other Non-Aircraft Noise Sources[2]		0	633	287	90	46
Total All Events Count		0	659	313	96	49

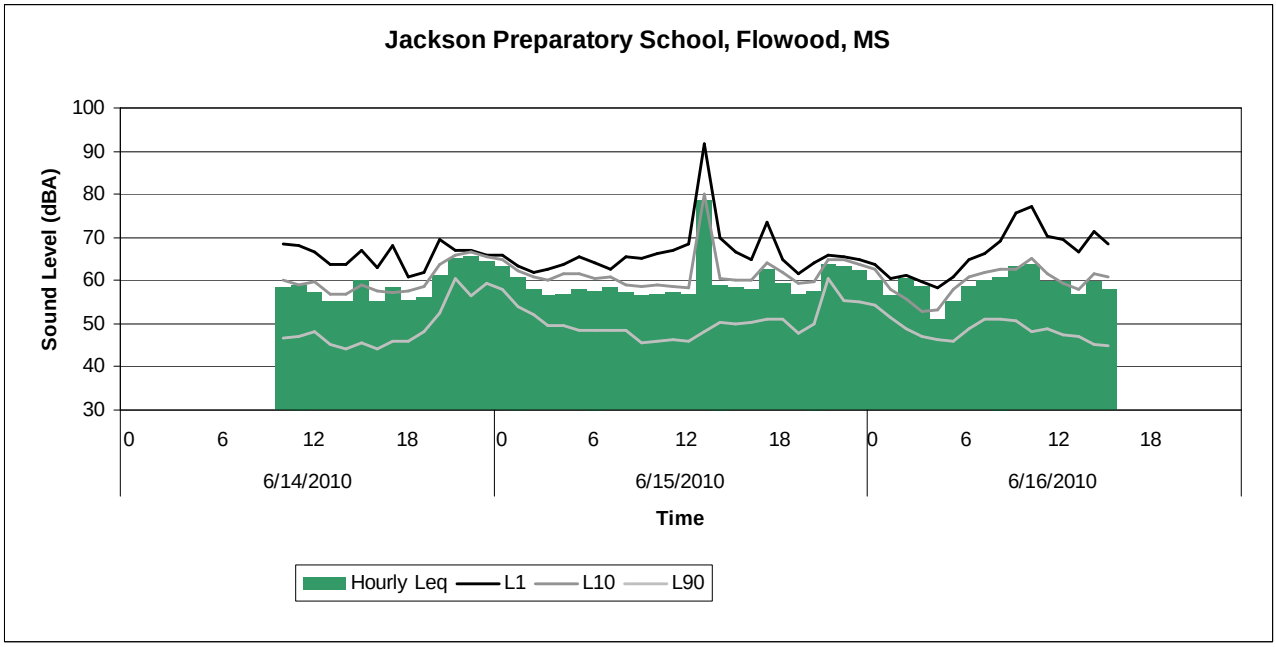
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to: weather, traffic, nature, community noise (lawn care, children playing etc.)

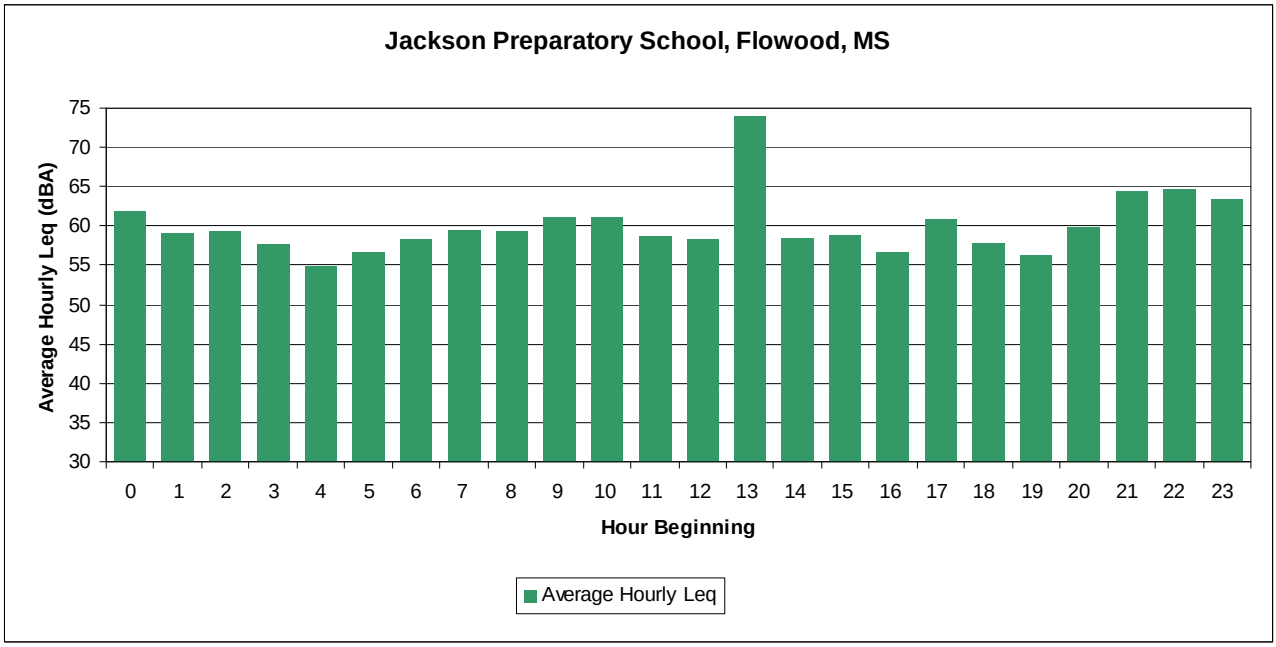
Source: HMMH

Figure E-1 Site 1: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-2 Site 1: Measured Average Hourly Noise Levels



Source: HMMH

E.2 SITE 2: 106 DEER RUN, PEARL, MS

Site 2 is located approximately 0.8 miles west of the extended centerline of Runway 16R/34L, approximately 1.5 miles southwest from the departure end of Runway 34L. The monitor was situated in the back yard of a single family dwelling unity in a moderately dense residential neighborhood along the eastern edge of a 6-foot wooden fence. The home was set in a cul-de-sac

shielded from all major roads and most community traffic. Large trees were present along the edge of the community, obstructing line of sight to aircraft except for direct flyovers. The objective for this site was to measure southerly aircraft arrivals to and departures from the west runway (Runway 16R/34L).

Table E-2 presents the L_{max} distribution for various noise sources. In addition to the maximum sound level distribution shown in Table E-2, there were 219 events recorded with a maximum A-weighted sound level below 60 dB. Figure E-3 shows the hourly variation of noise from all noise sources during the period of the noise measurements.

Approximately 73 hours of monitoring were conducted at Site 2; however, approximately 20 hours of data were lost due to a data transfer/storage problem. As shown in Figure E-4, the daily variation in hourly L_{eq} ranged from approximately 49 to 61 dBA. The estimated DNL value for this site was 60 dB.

Table E-2 Site 2 Distribution of Maximum Sound Levels

Address: 106 Deer Run, Pearl, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	43	33	27	4	5
	Runway 34L/34R	0	0	0	0	0
Aircraft Arrivals	Runway 16L/16R	0	0	0	0	0
	Runway 34L/34R	1	1	0	0	0
Other Aircraft[1]		5	6	4	1	2
Total Aircraft Count		49	40	31	5	7
Other Non-Aircraft Noise Sources[2]		170	86	22	14	3
Total All Events Count		219	126	53	19	10

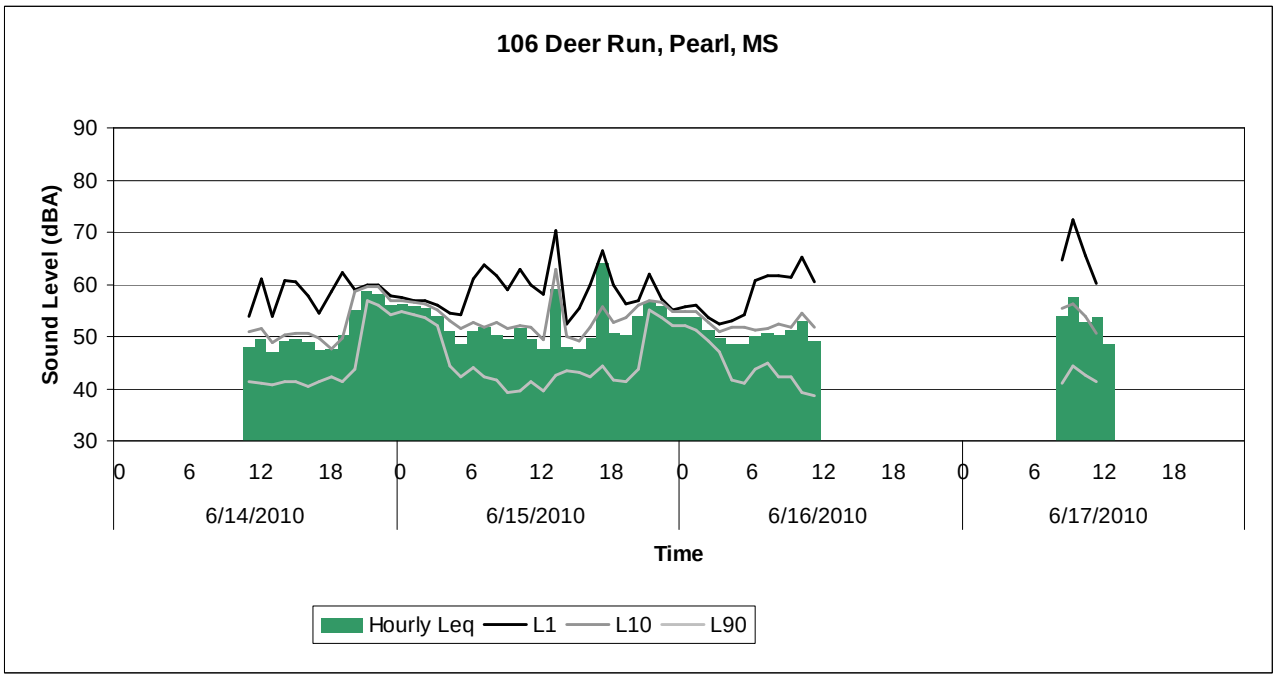
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to: weather, traffic, nature, community noise (lawn care, children playing etc.)

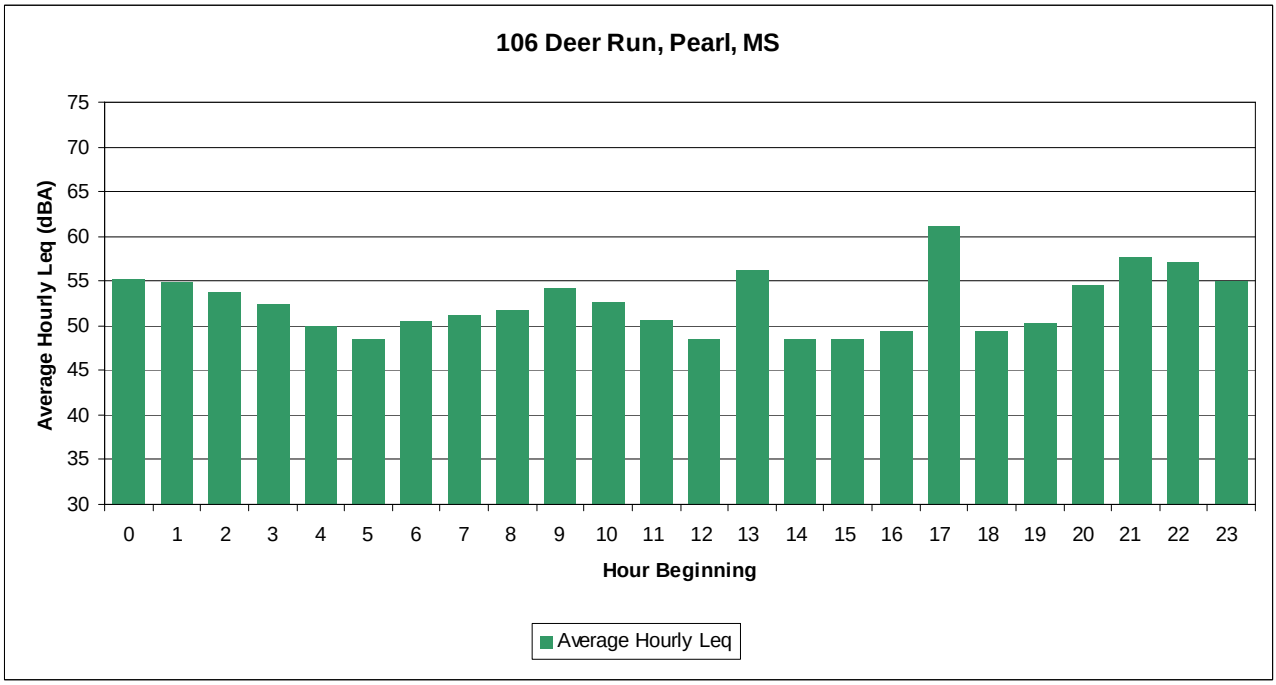
Source: HMMH

Figure E-3 Site 2: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-4 Site 2: Measured Average Hourly Noise Levels



Source: HMMH

E.3 SITE 3: 232 AQUA WAY, PEARL, MS

Site 3 is located approximately 2.2 miles on the extended centerline of Runway 16L/34R south of the departure end of Runway 34R. The monitor was situated in the side yard of a single family

dwelling unit in a sparse residential neighborhood on the south edge of the property beside a wooded area. Beyond the wooded area lies Interstate 20 which provided a low level of background traffic noise. Site 3 was an excellent location with superb line of site to aircraft despite the surrounding woods. The objective for this site was to measure southerly aircraft arrivals to and departures from the east runway (Runway 16L/34R).

Table E-3 presents the L_{max} distribution for various noise sources. In addition to the maximum sound level distribution shown in Table E-3 there was 1 event recorded with a maximum A-weighted sound level below 60 dB. Figure E-5 shows the hourly variation of noise from all noise sources during the period of the noise measurements.

Approximately 72 hours of monitoring were conducted at Site 3. As shown in Figure E-6 the daily variation in hourly L_{eq} ranged from approximately 53 to 63 dBA. The estimated DNL value for this site was 64 dB.

Table E-3 Site 3 Distribution of Maximum Sound Levels

Address: 232 Aqua Way, Pearl, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	0	52	34	27	17
	Runway 34L/34R	0	0	0	0	0
Aircraft Arrivals	Runway 16L/16R	0	0	0	0	0
	Runway 34L/34R	0	0	3	2	4
Other Aircraft[1]		0	2	6	4	16
Total Aircraft Count		0	54	43	33	37
Other Non-Aircraft Noise Sources[2]		1	741	126	13	5
Total All Events Count		1	795	169	46	42

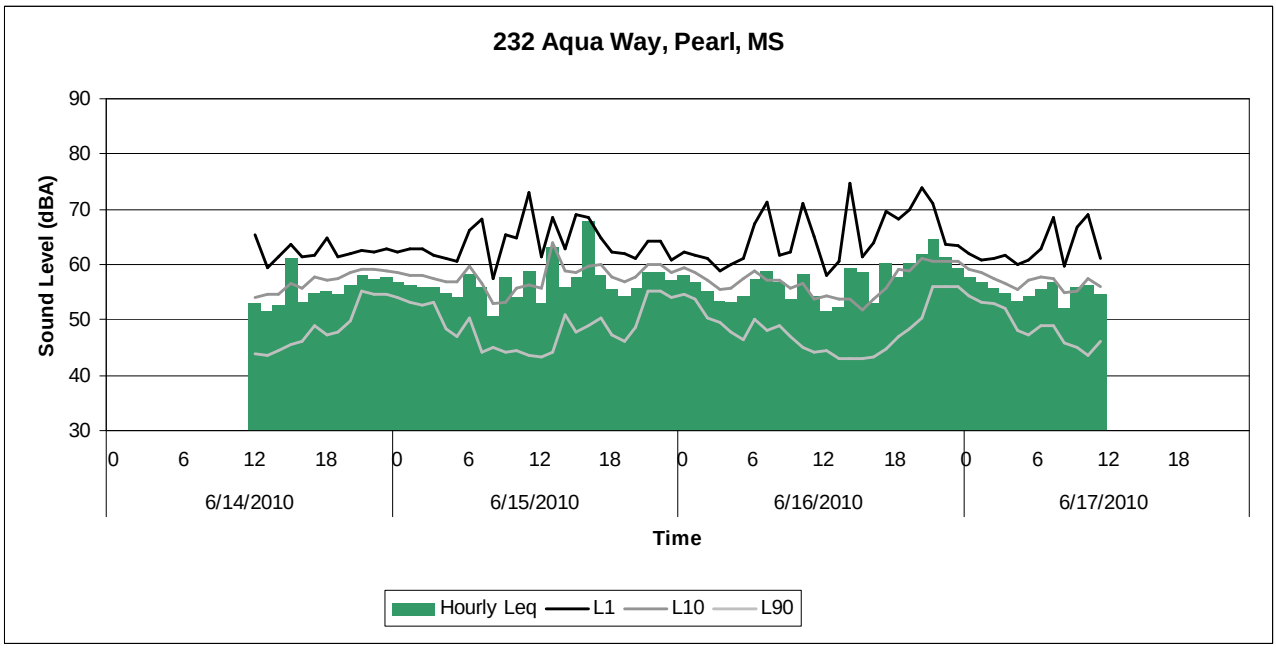
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to: weather, traffic, nature, community noise (lawn care, children playing etc.)

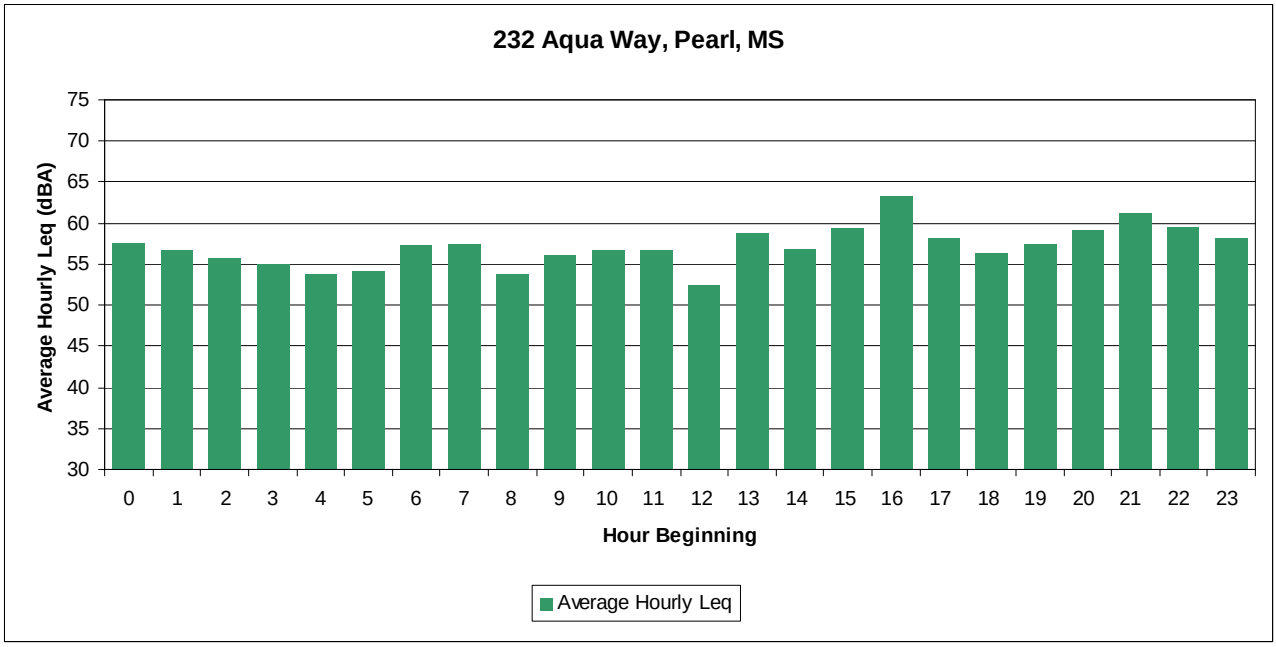
Source: HMMH

Figure E-5 Site 3: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-6 Site 3: Measured Average Hourly Noise Levels



Source: HMMH

E.4 SITE 4: 211 WOODGREEN COVE, FLOWOOD, MS

Site 4 is located approximately 1.2 miles east of the extended centerline of Runway 16L/34R, approximately 2.1 miles north from the departure end of Runway 16L. The monitor was situated in

the back gated yard of a single-family dwelling unit in a dense residential neighborhood facing an open pond. The home was in a cul-de-sac and therefore shielded from the majority of local traffic and community noise. The objective for this site was to measure northerly aircraft arrivals to and departures from the east runway (Runway 16L/34R).

Table E-4 presents the L_{max} distribution for various noise sources. In addition to the maximum sound level distribution shown in Table E-4 there were 102 events recorded with a maximum A-weighted sound level below 60 dB. Figure E-7 shows the hourly variation of noise from all noise sources during the period of the noise measurements.

Approximately 42 hours of monitoring were conducted at Site 4. As shown in Figure E-8, the daily variation in hourly L_{eq} ranged from approximately 47 to 62 dBA. The estimated DNL value for this site was 62 dB.

Table E-4 Site 4 Distribution of Maximum Sound Levels

Address: 211 Woodgreen Cove, Flowood, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	0	0	0	0	0
	Runway 34L/34R	5	3	1	1	0
Aircraft Arrivals	Runway 16L/16R	4	3	3	3	1
	Runway 34L/34R	0	0	0	0	0
Other Aircraft[1]		1	7	7	2	2
Total Aircraft Count		10	13	11	6	3
Other Non-Aircraft Noise Sources[2]		92	116	62	20	5
Total All Events Count		102	129	73	26	8

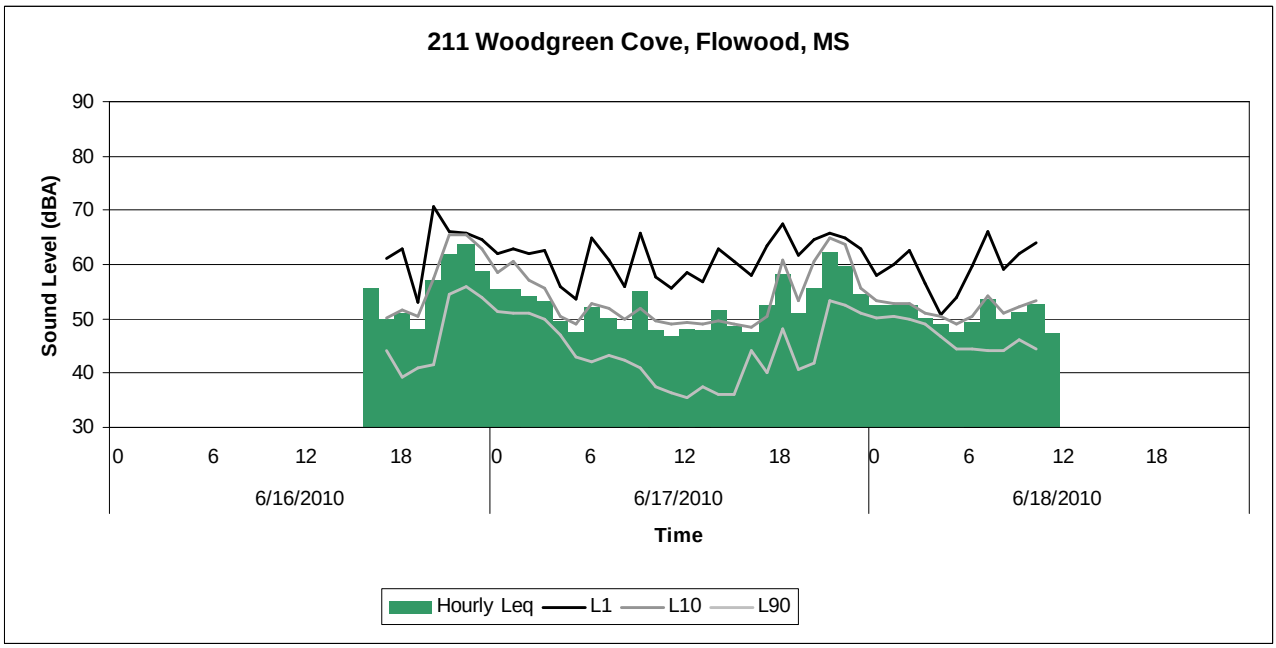
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to: weather, traffic, nature, community noise (lawn care, children playing etc.)

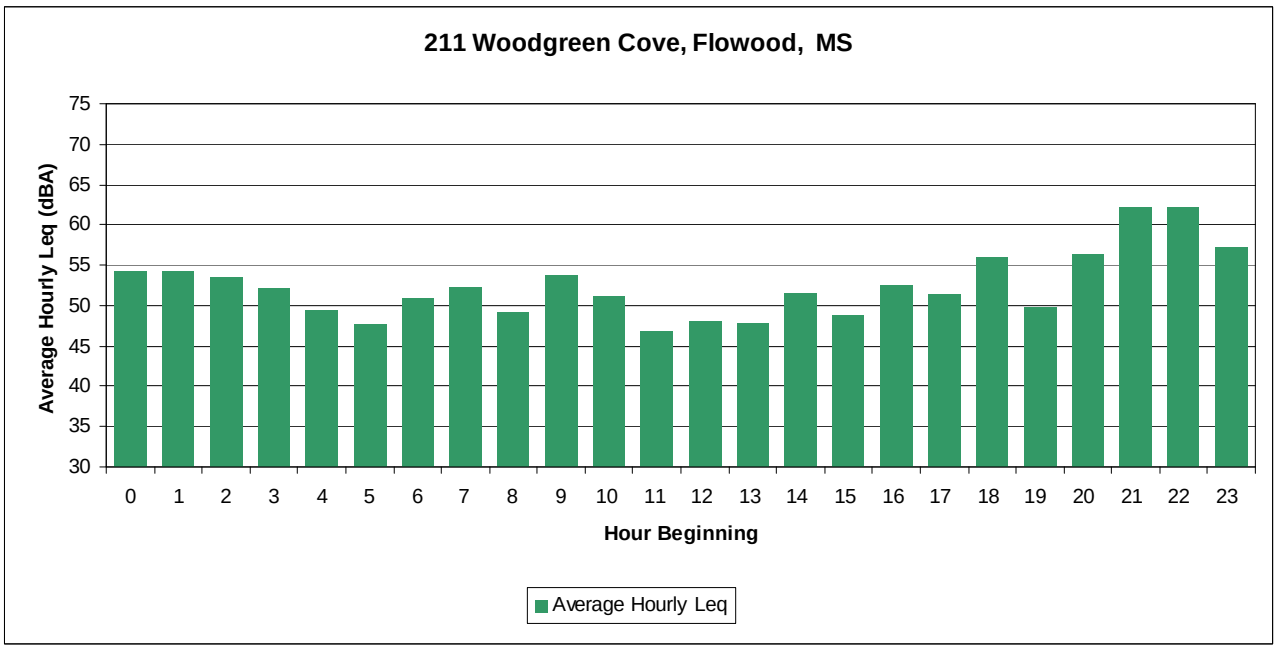
Source: HMMH

Figure E-7 Site 4: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-8 Site 4: Measured Average Hourly Noise Levels



Source: HMMH

E.5 SITE 5: 171 TRIGG CIRCLE, PEARL, MS

Site 5 is located approximately 1.1 miles east of the center of Runway 16L/34R. The monitor was situated on the side yard of a single family dwelling unit in a sparse residential neighborhood along a telephone pole line. There was very little local street traffic. The dominant noise events observed are attributed to weather conditions such as rain and thunder and weed whacking in the neighboring yards. The objective for this site was to measure aircraft sideline noise and patterns on the east runway (Runway 16L/34R).

Table E-5 presents the L_{max} distribution for various noise sources. In addition to the maximum sound level distribution shown in Table E-5 there was one event recorded with a maximum A-weighted sound level below 60 dB. No visual confirmation was made for any aircraft events while observing at this site. Figure E-9 shows the hourly variation of noise from all noise sources during the period of the noise measurements.

Approximately 26 hours of monitoring were conducted at Site 5. As shown in Figure E-10, the daily variation in hourly L_{eq} ranged from approximately 44 to 73 dBA. The estimated DNL value for this site was 61 dB.

Table E-5 Site 5 Distribution of Maximum Sound Levels

Address: 171 Trigg Circle, Pearl, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	0	0	1	0	0
	Runway 34L/34R	0	0	0	0	0
Aircraft Arrivals	Runway 16L/16R	0	2	2	0	0
	Runway 34L/34R	0	0	0	0	0
Other Aircraft[1]		0	0	0	0	0
Total Aircraft Count		0	2	3	0	0
Other Non-Aircraft Noise Sources[2]		1	88	29	7	4
Total All Events Count		1	90	32	7	4

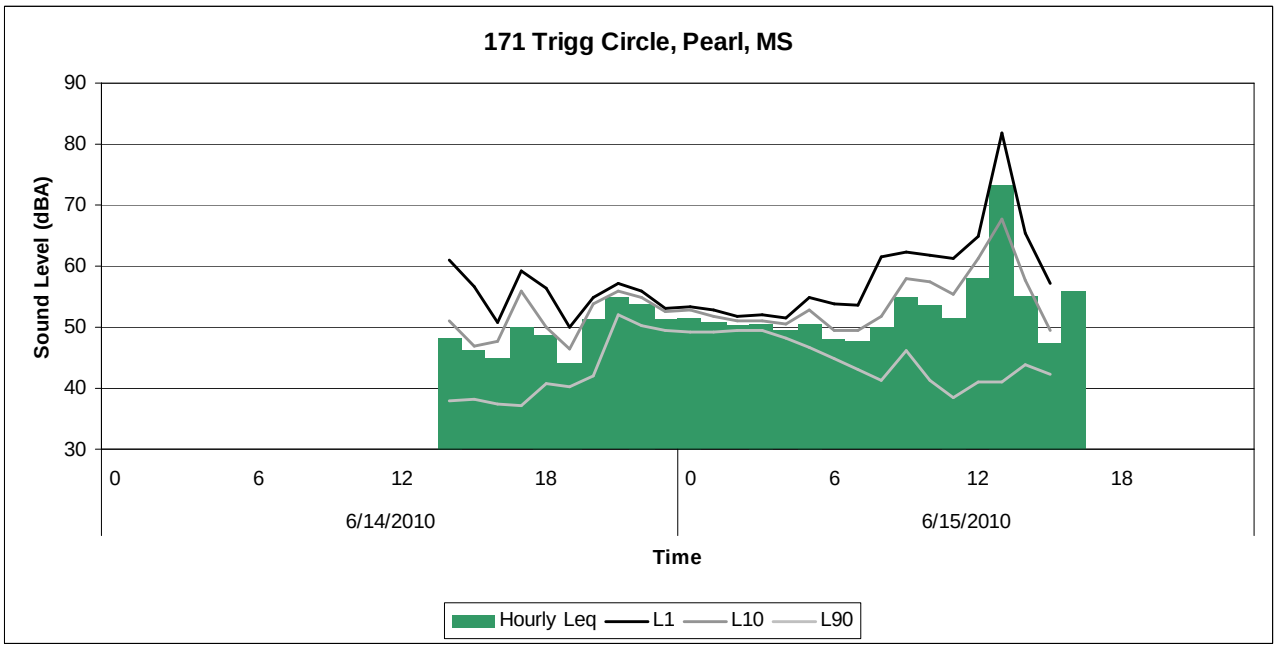
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to; weather, traffic, nature, community noise (lawn care, children playing etc.)

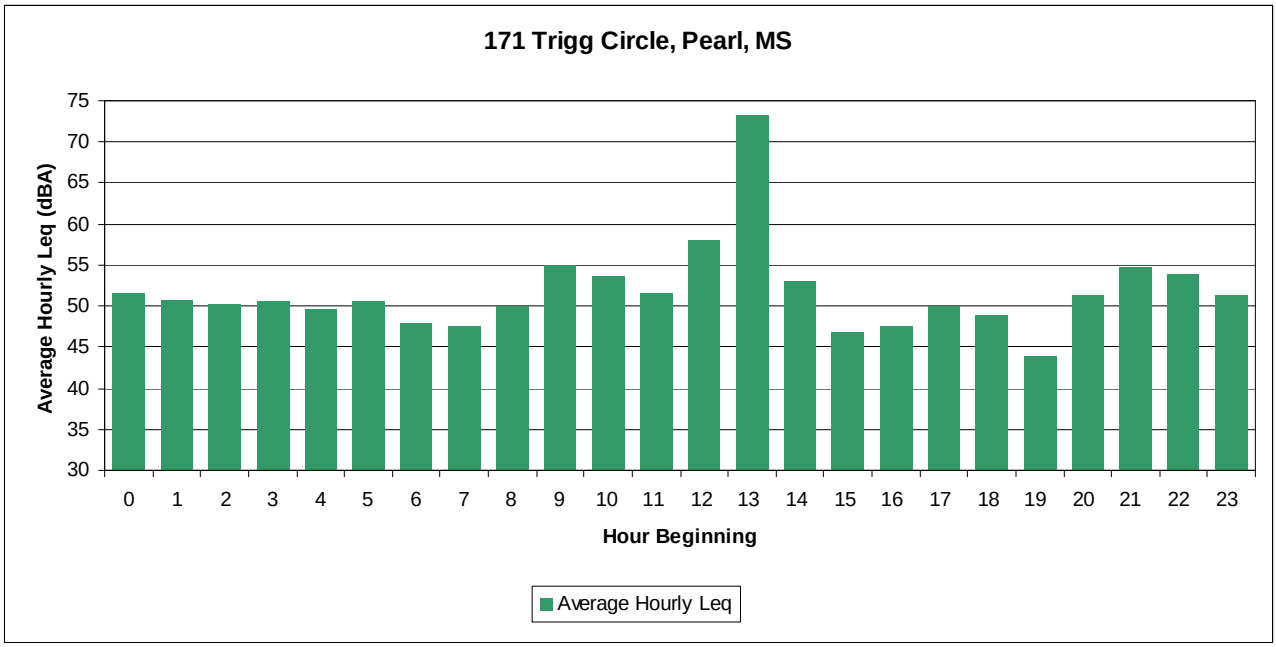
Source: HMMH

Figure E-9 Site 5: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-10 Site 5: Measured Average Hourly Noise Levels



Source: HMMH

E.6 SITE 6: 57 TERRAPIN, BRANDON, MS

Site 6 is located approximately 1.7 miles east of the extended centerline of Runway 16L/34R, approximately 2.5 miles southeast from the start of takeoff for Runway 34R. The monitor was situated on the back yard south edge of a single family dwelling unit in a dense residential neighborhood. The row of homes provided some shielding from local street traffic noise, though traffic to the south on a road about 200 feet away was more dominant than the road traffic the house was situated on. This site had neighboring yards with pools that were in use when we set up the equipment. Since this site was a good distance from the centerline of the runways, the objective for this site was to measure aircraft patterns activity to the south from the east runway (Runway 16L/34R).

Table E-6 presents the L_{max} distribution for various noise sources. Approximately 24 hours of monitoring were conducted at Site 6. Figure E-11 shows the hourly variation of noise from all noise sources during the period of the noise measurements. As shown in Figure E-12, the daily variation in hourly L_{eq} ranged from approximately 46 to 59 dBA. The estimated DNL value for this site was 59 dB.

Table E-6 Site 6 Distribution of Maximum Sound Levels

Address: 57 Terrapin, Brandon, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	0	2	3	0	1
	Runway 34L/34R	0	0	0	0	0
Aircraft Arrivals	Runway 16L/16R	0	1	0	0	0
	Runway 34L/34R	0	0	0	0	0
Other Aircraft[1]		0	2	0	0	1
Total Aircraft Count		0	4	3	0	2
Other Non-Aircraft Noise Sources[2]		0	149	13	2	1
Total All Events Count		0	153	16	2	3

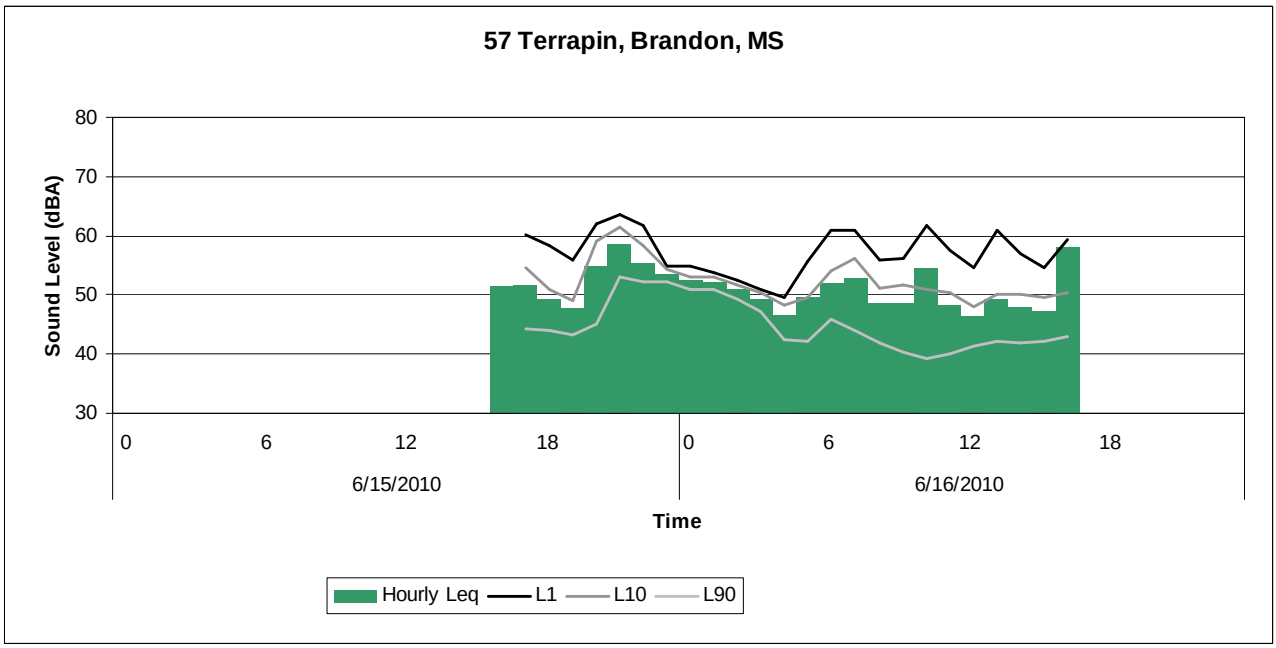
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to; weather, traffic, nature, community noise (lawn care, children playing etc.)

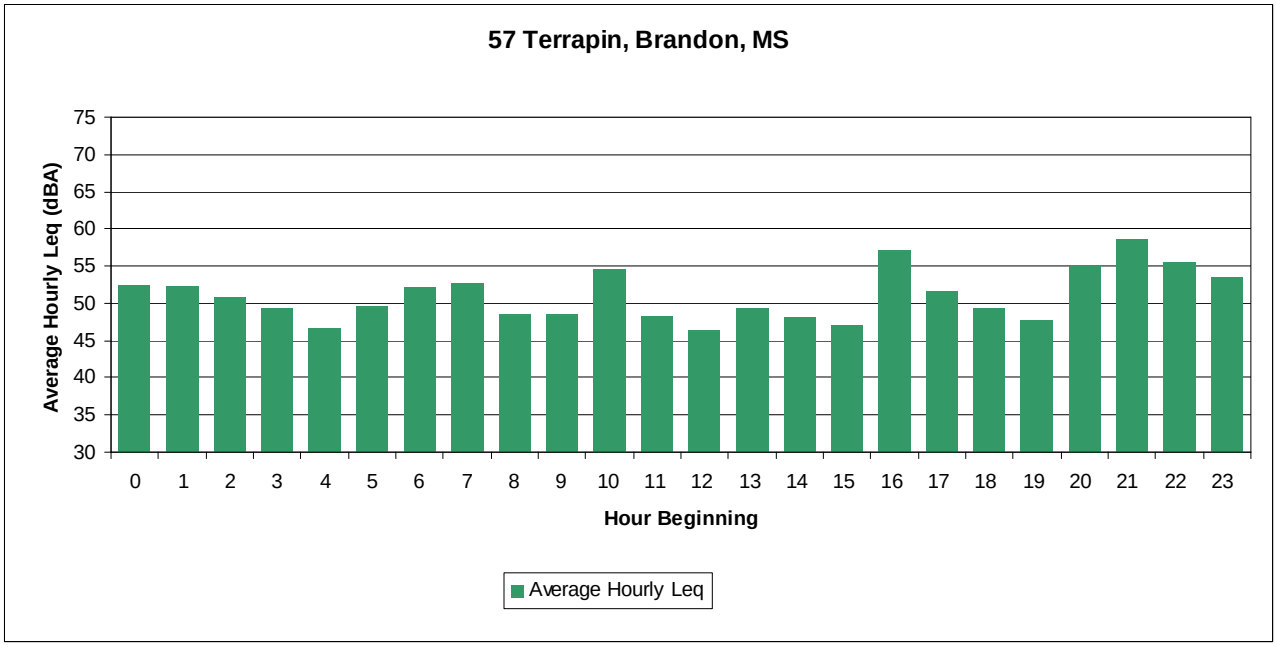
Source: HMMH

Figure E-11 Site 6: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-12 Site 6: Measured Average Hourly Noise Levels



Source: HMMH

E.7 SITE 7: 4017 MAGNUM DRIVE, FLOWOOD, MS

Site 7 is located approximately 1.6 miles west of the departure end of Runway 16R. The monitor was situated on the back property of a single family dwelling unit in a rural area along a moderately busy road. The equipment was set about 400 feet back from the road and shielded by the residence and an open garage/barn. The objective for this site was to measure aircraft sideline noise and patterns on the west runway (Runway 16R/34L).

Each evening and night during the period of measurements some extraordinarily long events and extremely high noise levels were measured beginning at approximately 8:30 PM and lasting until approximately 4:00 AM. It is unknown what the sources of these levels and events were, but it seems safe to say that these did not appear to represent aircraft activity. The results of these events were high SEL values which along with the nighttime annoyance of an additional 10 dB, were then used to compute inflated DNL values.

Table E-7 presents the L_{max} distribution for various noise sources. In addition to the maximum sound level distribution shown in Table E-7 there were 216 events recorded with a maximum A-weighted sound level below 60 dB. Figure E-13 shows the hourly variation of noise from all noise sources during the period of the noise measurements.

Approximately 42 hours of monitoring were conducted at Site 7. As shown in Figure E-14, the daily variation in hourly L_{eq} ranged from approximately 45 to 71 dBA. The estimated DNL value for this site was 66 dB.

Table E-7 Site 7 Distribution of Maximum Sound Levels

Address: 4017 Magnum Drive, Flowood, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	1	4	0	2	3
	Runway 34L/34R	0	0	0	0	0
Aircraft Arrivals	Runway 16L/16R	0	1	5	2	1
	Runway 34L/34R	0	0	0	0	0
Other Aircraft[1]		0	1	0	1	0
Total Aircraft Count		1	6	5	5	4
Other Non-Aircraft Noise Sources[2]		215	77	29	2	7
Total All Events Count		216	83	34	7	11

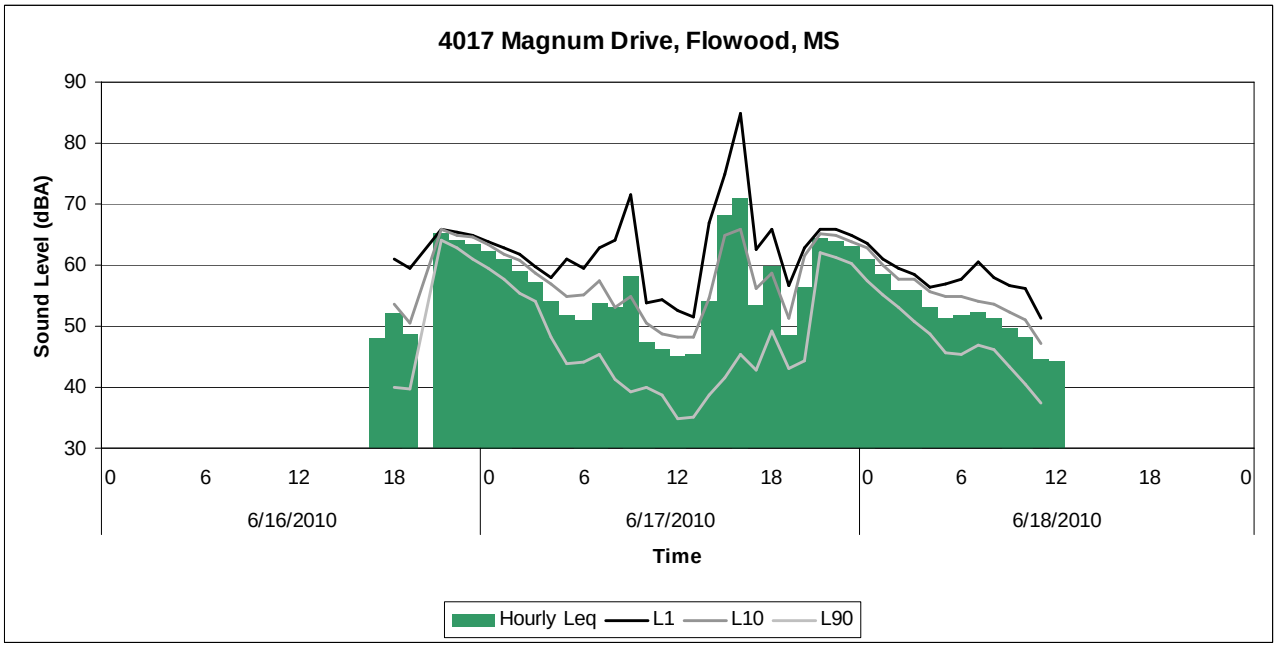
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to; weather, traffic, nature, community noise (lawn care, children playing etc.)

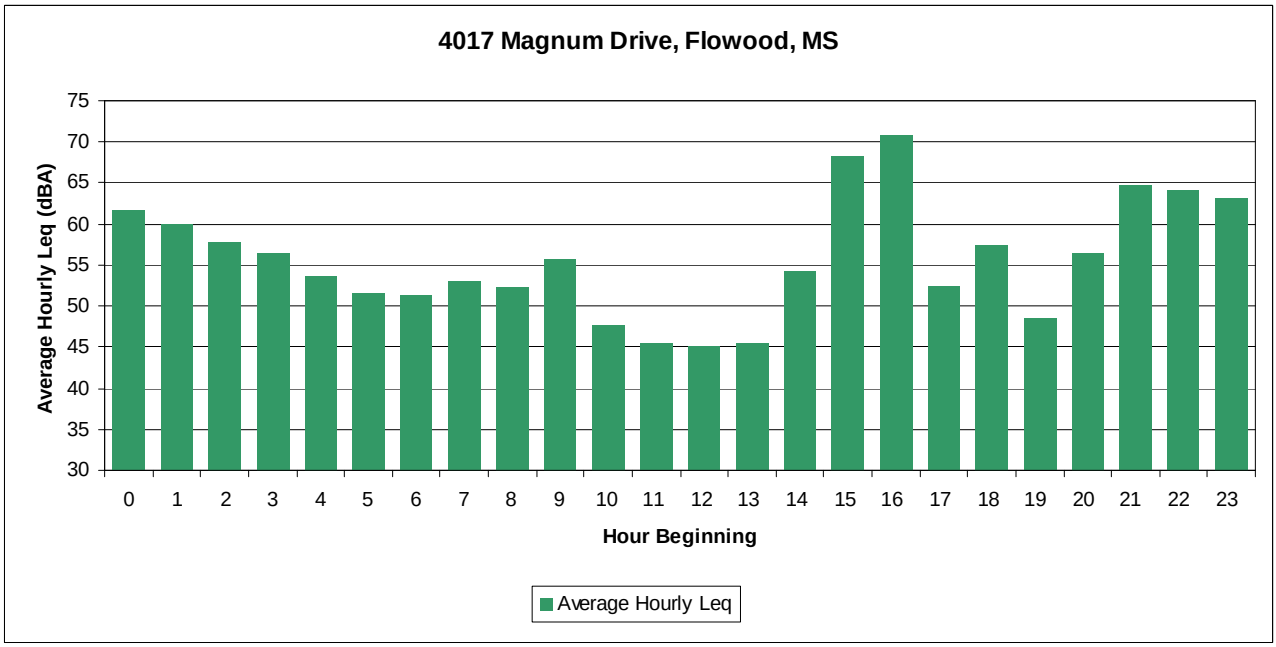
Source: HMMH

Figure E-13 Site 7: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-14 Site 7: Measured Average Hourly Noise Levels



Source: HMMH

E.8 SITE 8: 503 PATRICK FARM DRIVE, PEARL, MS

Site 8 is located approximately 3 miles south on the extended centerline of Runway 16R/34L from the departure end of Runway 16R. The monitor was situated at a single family dwelling unit in a moderately dense residential neighborhood at back end of the property bordering a golf course. The local community was observed to be relatively quiet aside from some yard work that was observed at a neighbor's house. The objective for this site was to primarily measure aircraft arrivals to and departures from the west runway (Runway 16R/34L) at a point farther away from the Airport environs.

Table E-8 presents the L_{max} distribution for various noise sources. In addition to the maximum sound level distribution shown in Table E-8 there were 36 events recorded with a maximum A-weighted sound level below 60 dB.

Approximately 21 hours of monitoring were conducted at Site 8. As shown in Figure E-16, the daily variation in hourly L_{eq} ranged from approximately 44 to 63 dBA. The estimated DNL value for this site was 58 dB, the lowest out of all the measurement sites.

Table E-8 Site 8 Distribution of Maximum Sound Levels

Address: 503 Patrick Farm Drive, Pear, MS						
Source		**Maximum Sound Level, Lmax (dB)**				
		<60	**60-65**	**65-70**	**70-75**	**75+**
Aircraft Departures	Runway 16L/16R	3	5	2	2	1
	Runway 34L/34R	0	0	0	0	0
Aircraft Arrivals	Runway 16L/16R	0	0	0	0	0
	Runway 34L/34R	1	4	6	0	1
Other Aircraft[1]		3	1	1	0	0
Total Aircraft Count		7	10	9	2	2
Other Non-Aircraft Noise Sources[2]		29	33	56	26	5
Total All Events Count		36	46	65	28	7

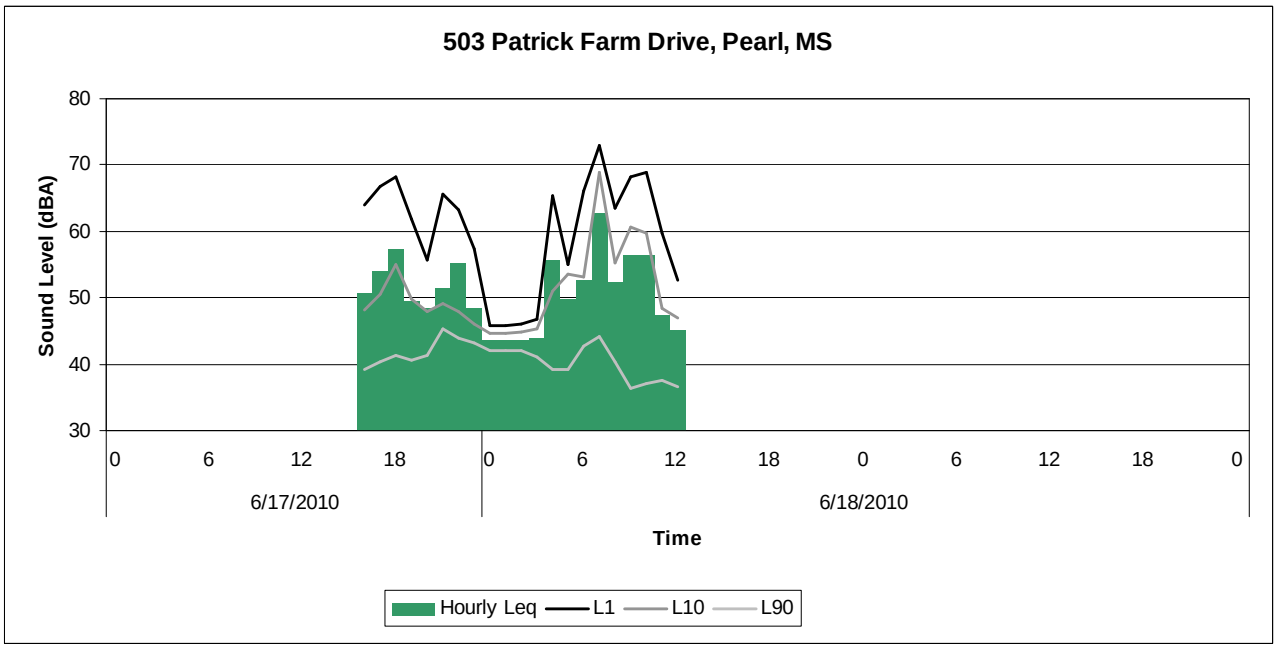
Notes:

[1] "Other Aircraft" refers to aircraft in the radar data that were not assigned a runway or operational mode

[2] "Non-Aircraft Noise Sources" include but are not limited to; weather, traffic, nature, community noise (lawn care, children playing etc.)

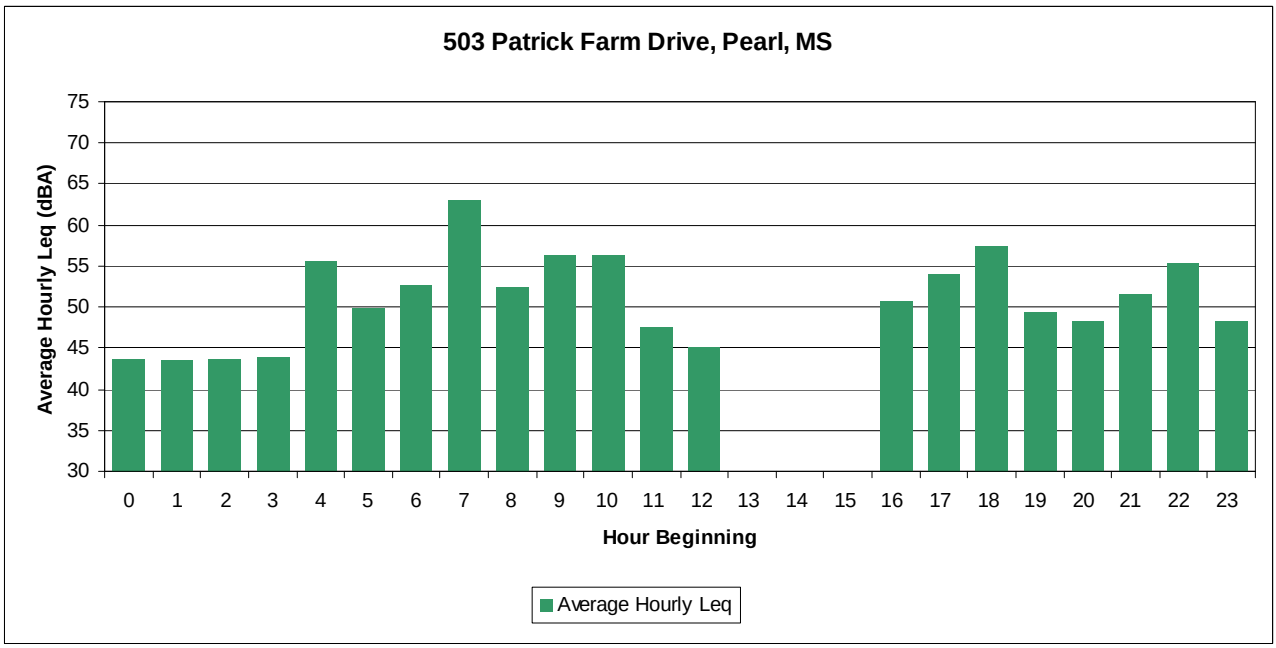
Source: HMMH

Figure E-15 Site 8: Measured Hourly Noise Levels, Full Duration



Source: HMMH

Figure E-16 Site 8: Measured Average Hourly Noise Levels



Source: HMMH

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Appendix F

MASTER PLAN FORECAST EXCERPT, CHAPTER 4.4, FORECAST AVIATION ACTIVITY

CHAPTER 4
FORECASTS

MASTER PLAN
JACKSON-EVERS INTERNATIONAL AIRPORT

Prepared for
JACKSON MUNCIPAL AIRPORT AUTHORITY
Jackson, Mississippi

DRAFT

June 2010
Version 2.0

RS&H
Architectural, Engineering, Planning, and Environmental Services

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4.4 FORECAST AVIATION ACTIVITY

This section presents forecasts of annual commercial and non-commercial aviation activity at the Airport for FY 2010-2029.

Forecasts of commercial aviation activity were developed using a hybrid modeling approach that (1) utilizes available information on scheduled air service in the near-term, and (2) links long-term airport activity to projected trends in key demand drivers:

- **Capacity-Based Near-Term Forecast** - Actual Airport data for July 2009 through March 2010 and the published airline schedules for FY 2010 were used to develop projections of enplanements, aircraft departures (landings) and landed weight for FY 2010. Although the schedules are subject to revisions, they are the most concrete indicator of airlines' expectations about near-term economic and demand conditions, taking into account available fleet and other resources.

- **Demand-Driven Long-Term Forecast** - Forecast aviation activity over the remainder of the forecast period were generated using a multivariate regression model that relates enplanements to (1) long-term demand drivers such as trends in the price of air travel and income, which in turn is driven by U.S. economic activity; (2) structural changes that have been taking place in the industry post-September 11, 2001; (3) the boost in enplanement growth provided by the entry of Southwest Airlines into the market in the fall of 2007; and (4) a first-order autoregressive factor to correct for serial correlation in time series data. The results of this regression model were used to project annual growth rates in enplanements from FY 2011 through 2029 for the base and low forecast scenarios. The resulting enplanement forecasts were then used to project aircraft departures (or landings) and landed weight, given assumptions regarding fleet mix and boarding load factors.

Three forecast scenarios are presented: base, low and high. The base and the low forecast scenarios correspond to different assumptions regarding the pace of U.S. economic recovery used in modeling enplanement growth within the multivariate regression framewok. The high forecast scenario adopts the higher annual enplanement growth rates predicted by the most recently published Terminal Area Forecasts for the years FY 2014- 2029.

4.4.1 Multivariate Regression Model

Multivariate regression analysis is an integral component of the forecasting approach, particularly in projecting annual enplanement growth rates after FY 2010. Multivariate regression analysis provides a systematic framework to link forecast activity with key explanatory variables that drive demand for air travel. By design, regression analysis reduces subjective inputs and minimizes forecast errors.

The regression model of enplanements at the Airport was specified with the explanatory variables described below:

- **Price of Air Travel** - The demand for air travel is inversely related to its price. Holding all other factors constant, more people travel and do so more frequently when air fares go down, and fewer people travel and do so less frequently when air fares go up. Airfares, in real terms, have followed a long-term trend of decline since deregulation in 1978, stimulating growth in air travel. A variety of factors have combined to reduce airfares: productivity growth, competition (particularly from low-cost carriers), price transparency on the Internet, and growing price consciousness among both leisure and business travelers. The average domestic real

passenger yield at the Airport was used as a measure of the price of air travel. According to data from the U.S. Department of Transportation 10-percent ticket survey, the average domestic real passenger yield at the Airport declined at an average annual rate of 2.8 percent between FY1985 and 2009. The average real passenger yield is projected to continue declining at an average annual rate of 1.3 percent between FY 2009 and 2029, following FAA industry projections.[4] *Table 4-36* shows the annual rates of change in the real passenger yield at the Airport underlying the enplanement growth forecasts.

- **Income** - The demand for air travel increases with income because income growth boosts consumer spending and stimulates business activity. The real U.S. per capita Gross Domestic Product (GDP) was used as a measure of income. Historical and forecast data on real U.S. GDP and population were obtained from Moody's economy.com, an independent economic forecasting firm, to calculate real U.S. per capita GDP. Different assumptions with respect to the pace of economic recovery and resulting per capita income growth produce the base and low forecasts of activity. The base forecast used the economic projections of Moody's economy.com that foresee a moderate recovery. The low forecast assumed a slower pace of economic recovery during the calendar years (CY) 2010-2013. The real U.S. per capita GDP increased at an average annual rate of 1.6 percent between CY 1985 and 2009. This variable is projected to increase at an average annual rate of 1.6 percent between CY 2009 and 2029 under the base case, and at an average annual rate of 1.3 percent under the low case. *Table 4-36* also shows the annual growth rates in real per capita GDP underlying the base and low forecasts of enplanement growth.

- **Southwest Airlines Entry** – The model included a shift variable to account for the boost in enplanement growth that occurred in FY 1998 when Southwest Airlines began serving the Airport in the fall of 1997.

- **Post-September 11, 2001 Structural Changes** - Since the estimation period used in regression modeling extended back to years prior to the September 11, 2001 events, a variable was included to account for the structural changes that occurred in the market and the industry following the September 11, 2001 events.

The above model specification explained 97 percent of the historical trends in enplanements at the Airport.

[4] Federal Aviation Administration, *Aerospace Forecasts, FY 2010-2030*, March 2010.

Table 4-36
ANNUAL GROWTH PROJECTIONS FOR KEY LONG-TERM DEMAND DRIVERS

Year	JAN Real Yield[1]	Real U.S. per capita GDP	
		Base[2]	Low[3]
2010	-1.0%	1.3%	0.2%
2011	-1.4%	2.8%	0.9%
2012	-1.5%	4.1%	1.6%
2013	-1.5%	2.6%	1.6%
2014	-1.4%	1.8%	1.8%
2015	-1.2%	1.5%	1.5%
2016	-1.2%	1.4%	1.4%
2017	-1.1%	1.3%	1.3%
2018	-1.1%	1.2%	1.2%
2019	-1.1%	1.1%	1.1%
2020	-1.1%	1.2%	1.2%
2021	-1.1%	1.2%	1.2%
2022	-1.1%	1.1%	1.1%
2023	-1.1%	1.2%	1.2%
2024	-1.1%	1.2%	1.2%
2025	-1.1%	1.2%	1.2%
2026	-1.1%	1.2%	1.2%
2027	-1.1%	1.2%	1.2%
2028	-1.1%	1.2%	1.2%
2029	-1.1%	1.2%	1.2%

[1] On fiscal year basis; based on FAA industry projections for domestic travel
[2] On calendary year basis; based on Moody's economy.com forecasts of growth in population and real U.S. GDP; base data on calendar year basis
[3] On calendar year basis, based on Moody's economy.com forecasts of growth in population and real U.S. GDP, assuming lower annual growth rates in real U.S. GDP during CY 2010-2013

4.4.2 Forecast Commercial Passenger Enplanements

The near-term forecast of enplanements is based on actual performance to date and published airline schedules for FY 2010. The long-term forecasts are derived as follows:

- **Base Forecast** – Based on growth trends predicted by the multivariate regression model, assuming moderate economic recovery.
- **Low Forecast** - Based on growth trends predicted by the multivariate regression model, assuming slow economic recovery.
- **High Forecast** – Based on base forecast growth trends under the multivariate regression model for FY 2011-2013, and thereafter based on higher growth trends predicted by the Terminal Area Forecasts (TAF) developed by the FAA for the Airport. The high forecast reflects the combination of annual enplanement growth rates from the multivariate regression model and the TAF, and not the forecast enplanement levels under the TAF.

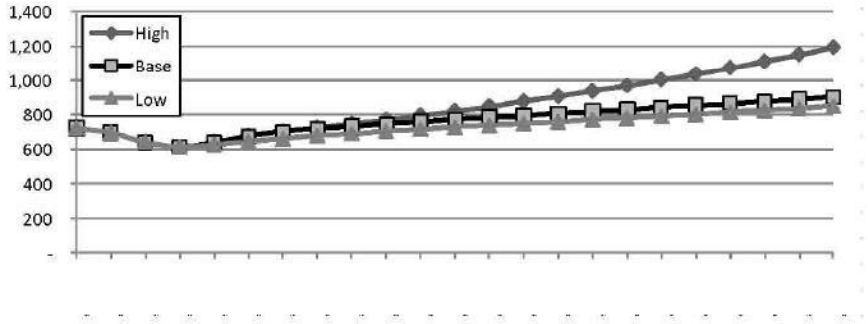
Table 4-37 shows the resulting forecasts of commercial passenger enplanements.

Table 4-37

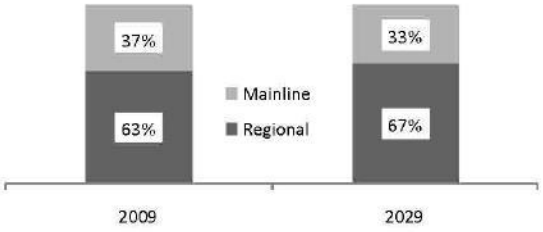
JACKSON-EVERS INTERNATIONAL AIRPORT
FORECAST COMMERCIAL ENPLANEMENTS, FY 2009-2029

	Enplanements (In Thousands)				Average Annual Growth Rate			
	Actual	Forecast			Forecast			
	2009	2014	2019	2029	2009-14	2014-19	2019-29	2009-29
Base Forecast								
Mainline	237	235	256	295	-0.1%	1.7%	1.4%	1.1%
Regional	401	481	524	603	3.7%	1.7%	1.4%	2.1%
Total	637	716	780	898	2.4%	1.7%	1.4%	1.7%
Low Forecast								
Mainline	237	221	241	279	-1.3%	1.8%	1.4%	0.8%
Regional	401	452	493	569	2.5%	1.8%	1.4%	1.8%
Total	637	674	735	848	1.1%	1.8%	1.4%	1.4%
High Forecast								
Mainline	237	237	278	391	0.0%	3.2%	3.5%	2.5%
Regional	401	484	567	799	3.8%	3.2%	3.5%	3.5%
Total	637	720	845	1,190	2.5%	3.2%	3.5%	3.2%

Annual Enplanements (In Thousands)
Actual, FY 2007-09, and Forecast, FY 2010-29



Distribution by Air Carrier Group



Sources: Jackson Municipal Airport Authority for actual data and Unison Consulting, Inc. for forecasts, 2009

4.4.3 Forecast Commercial Air Cargo

Forecasts of commercial air cargo were developed using a modeling approach that (1) utilizes institutional cargo forecasts (Boeing and Airbus specifically) to calibrate future annual growth rates, and (2) introduces "extraordinary" growth based on the calculable effect of new all-cargo carrier and aircraft entry in the mid and long-term using historical data for Jackson-Evers International Airport, as well as comparable airports. Among the conventional cargo forecasting methodologies, the following were considered:

- **Trend Analysis** performs best for mature markets with only moderate fluctuations and requires confidence that recent experience is a reliable predictor of future activity levels. Stated simply, Jackson-Evers International Airport could hardly repeat a period in which the Airport's enplaned cargo fell by approximately 90 percent and what had been five all-cargo carriers has been reduced to only UPS.

- **Econometric Modeling** entails quantifying associations between the forecasted element – air cargo – and one or more variables, such as gross domestic or regional product, employment, population, income and/or fuel prices. However, econometric modeling for cargo works best with broadly defined markets (countries or entire continents) and assumes no constraints on supply. In contrast, cargo capacity is constrained at individual airports by the existing hub-and-spoke systems of carriers and by limited aircraft fleets. Interchangeability of capacity between airports and substitution of trucking for air transport further undercut unlimited supply of capacity.

- **Institutional Cargo Forecasts** from aircraft manufacturers Boeing and Airbus are used to calibrate air cargo forecasts, using multipliers segregated by region – specifically intra-North America in this case. Boeing's forecasts are most commonly used in US airport master plans and are a critical input to the FAA's own cargo forecasts. For domestic freight (the sole driver of JEIA's cargo forecasts) Boeing[5] projects only a 2.7 percent compound average growth rate for the years 2008 – 2027, while Airbus[6] projects an even lower 1.7 percent for years 2009 – 2028.

Lacking one of two dominant integrators (FedEx) and supported by only modest local industry, the Airport may struggle to keep pace even with modest national growth rates. Area employment is concentrated in services, with only two of Metro Jackson's top twenty employers[7] fitting the profile of potential air freight producers and/or consumers: #5 Nissan (automotive manufacturing) and #20 Delphi Auto Systems.

Three forecast scenarios are presented: base, low and high (*Table 4-38*). The low forecast scenario applies the lower (Airbus) forecasted growth rate of 1.7 percent for both all-cargo and belly carriers throughout the period, while introducing no stimulus benefits from new entry all-cargo carriers. Both the base and the high forecast scenarios use the higher (Boeing) forecasted growth rate of 2.7 percent for both all-cargo and belly carriers throughout the period.

Much more importantly, the base case introduces the entry of a small feeder all-cargo aircraft in FY 2015 with an increase in volume commensurate with that aircraft's payload and comparable service at other small hub airports. In the high forecast, the new entry carrier is actually introduced later (FY 2018) in the forecast horizon but with a contribution that is comparable to DHL's former

[5] World Air Cargo Forecast: 2008 – 2009, published by Boeing Corporation, November 2009
[6] Airbus: Global Market Forecast, 2009 – 2028, published by Airbus, 2009
[7] Source: Greater Jackson Alliance, January 27, 2010

role and share in the market. In both cases, an "exceptional" spike is introduced into the specific year of entry while otherwise cargo growth is maintained at the levels projected by Boeing. As previously described, this approach assumes that the new carrier's effect on UPS' clientele would be nominal.

Table 4-38
JACKSON-EVERS INTERNATIONAL AIRPORT
FORECAST COMMERCIAL AIR CARGO, FY 2009-2029

	Total Air Cargo (In pounds)				Average Annual Growth Rate			
	Actual	Forecast			Forecast			
	2009	2014	2019	2029	2009-14	2014-19	2019-29	2009-29
Base Forecast								
Belly	829,966	948,000	1,083,000	1,414,000	2.7%	2.7%	2.7%	2.7%
All-Cargo	12,850,654	13,295,000	19,813,000	25,861,000	0.7%	8.3%	2.7%	3.6%
Total	13,680,620	14,243,000	20,896,000	27,275,000	0.8%	8.0%	2.7%	3.5%
Low Forecast								
Belly	829,966	903,000	982,000	1,163,000	1.7%	1.7%	1.7%	1.7%
All-Cargo	12,850,654	12,785,000	13,909,000	16,463,000	-0.1%	1.7%	1.7%	1.2%
Total	13,680,620	13,688,000	14,891,000	17,626,000	0.0%	1.7%	1.7%	1.3%
High Forecast								
Belly	829,966	948,000	1,083,000	1,414,000	2.7%	2.7%	2.7%	2.7%
All-Cargo	12,850,654	13,295,000	24,064,000	31,410,000	0.7%	12.6%	2.7%	4.6%
Total	13,680,620	14,243,000	25,147,000	32,824,000	0.8%	12.0%	2.7%	4.5%

Source: Webber Air Cargo, 2010

As previously noted, carriers can often mitigate the need to add frequencies by introducing larger aircraft, possibly sharing the larger aircraft among two or more smaller markets. Given the considerable imbalance (roughly 65 percent of total cargo) in favor of deplaned cargo, the need for additional frequencies will be driven by deplaned cargo per arrival rather than simply average cargo per operation. Even in the high forecast, the approximately 78,000 pounds of deplaned cargo per inbound flight could potentially be accommodated by a single daily flight, so it bears noting again that stimulus in the base and high cases derives from the introduction of a second daily all-cargo operation (ATR or comparable feeder) in FY 2015 and for the high case perhaps a shared Boeing 757 beginning in FY 2018. Looking ahead to later analyses of airport capacity, it is significant that even in the high forecast, Jackson-Evers International Airport does not return to annual cargo levels of previous peak years even by the end of the forecast period.

4.4.4 Forecast Commercial Aircraft Departures

The following factors were considered in projecting the number of commercial passenger aircraft departures:

- Published airline schedules of aircraft departures and seats
- Forecast enplanements
- Boarding load factors
- Aircraft fleet mix

The forecasts took into account industry projections of changes in boarding load factors for mainline and regional carriers, any changes in aircraft fleet mix as indicated by airline flight schedules for FY 2010, and projected changes in aircraft fleet based on the age and retirement schedule of each aircraft serving the Airport assuming a 30-year aircraft useful life. Many of the aircraft currently in service at the Airport are relatively new and are expected to remain in the fleet through the end of the forecast period. Three aircraft, the Boeing MD-88 operated by Delta Air lines, and the Boeing models 737-300 and 737-500 operated by Southwest are expected to reach the end of their useful lives a few years before the end of the forecast period. They are replaced with similar newer aircraft, the Boeing 737-800 and the Boeing 737-700, currently in the fleet of Delta Air lines and Southwest Airlines serving the Airport.

All-cargo aircraft operations are assumed to remain constant over the 20-year forecast period. This is a reasonable assumption considering that only one all-cargo carrier, UPS, now operates at the Airport, and UPS does not anticipate growth in its operations at the Airport.

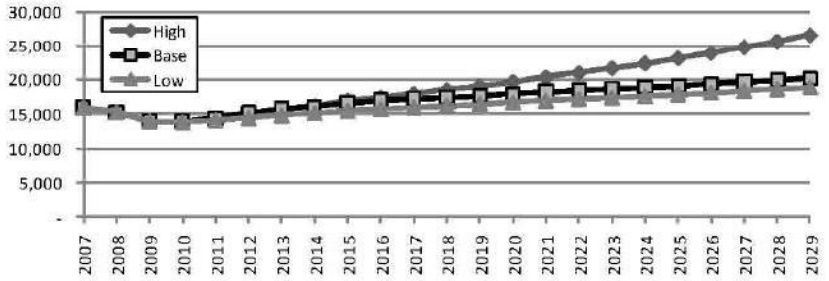
Table 4-39 shows the forecasts of commercial aircraft departures under the three forecast scenarios. Aircraft departures are assumed to be matched by the same number of aircraft arrivals. *Table 4-40* shows the projected commercial aircraft fleet mix. *Table 4-41* presents the base forecast monthly passenger aircraft departures, reflecting observed seasonal variation at the Airport. *Table 4-42* shows the calculation of peak month average day (PMAD) peak hour passenger aircraft operations for the base forecast.

Table 4-39

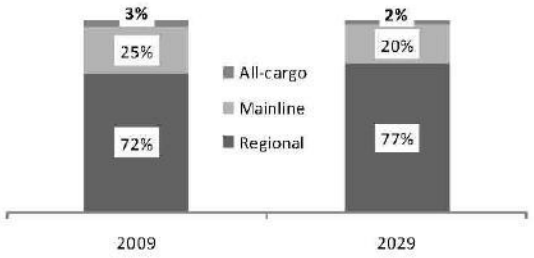
JACKSON-EVERS INTERNATIONAL AIRPORT
FORECAST COMMERCIAL AIRCRAFT DEPARTURES, FY 2009-2029

	Aircraft Departures				Average Annual Growth Rate			
	Actual	Forecast			Forecast			
	2009	2014	2019	2029	2009-14	2014-19	2019-29	2009-29
Base Forecast								
Mainline	3,421	3,400	3,600	4,100	-0.1%	1.1%	1.3%	0.9%
Regional	10,018	12,400	13,500	15,500	4.4%	1.7%	1.4%	2.2%
All-cargo	478	300	500	500	-8.9%	10.8%	0.0%	0.2%
Total	13,917	16,100	17,600	20,100	3.0%	1.8%	1.3%	1.9%
Low Forecast								
Mainline	3,421	3,200	3,400	3,900	-1.3%	1.2%	1.4%	0.7%
Regional	10,018	11,700	12,700	14,700	3.2%	1.7%	1.5%	1.9%
All-cargo	478	300	300	300	-8.9%	0.0%	0.0%	-2.3%
Total	13,917	15,200	16,400	18,900	1.8%	1.5%	1.4%	1.5%
High Forecast								
Mainline	3,421	3,400	3,900	5,500	-0.1%	2.8%	3.5%	2.4%
Regional	10,018	12,500	14,600	20,600	4.5%	3.2%	3.5%	3.7%
All-cargo	478	300	500	500	-8.9%	10.8%	0.0%	0.2%
Total	13,917	16,200	19,000	26,600	3.1%	3.2%	3.4%	3.3%

Annual Commercial Aircraft Departures
Actual, FY 2007-09, and Forecast, FY 2010-29



Distribution by Air Carrier Group



Sources: Jackson Municipal Airport Authority for actual data and Unison Consulting, Inc. for forecasts

Table 4-40

JACKSON-EVERS INTERNATIONAL AIRPORT
FORECAST COMMERCIAL AIRCRAFT FLEET MIX – BASE FORECAST
FY 2010, 2014, 2019 AND 2029

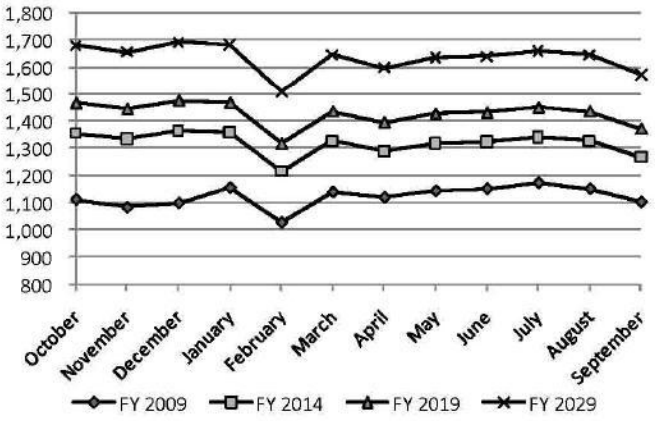
Air Carrier Group/Equipment	Aircraft Type	Seats	2010	2014	2019	2029
Mainline						
Boeing 737-700/800	Narrow body	137-150	10.9%	10.9%	10.6%	20.4%
Boeing 737-300/500	Narrow body	122-137	8.2%	8.1%	8.0%	
Boeing MD-88	Narrow body	142	2.1%	2.1%	2.0%	
Subtotal			21.1%	21.1%	20.6%	20.4%
Regional						
Canadair Regional Jet 700/900	Regional jet	70-76	4.5%	4.6%	4.5%	4.6%
Canadair Regional Jet	Regional jet	50	39.0%	39.2%	38.7%	39.0%
Embraer Regional Jet	Regional jet	40-50	33.5%	33.6%	33.3%	33.5%
Subtotal			77.1%	77.4%	76.6%	77.1%
All-cargo						
Airbus 300-600F	Wide body			1.6%	1.4%	1.2%
Boeing 757	Narrow body		1.8%			
ATR	Turboprop				1.4%	1.2%
Subtotal			1.8%	1.6%	2.8%	2.5%
Total			100.0%	100.0%	100.0%	100.0%

Source: OAG Aviation Services for FY 2010 and Unison Consulting, Inc. for FY 2014, 2019 and 2029

Table 4-41

JACKSON-EVERS INTERNATIONAL AIRPORT
MONTHLY COMMERCIAL PASSENGER AIRCRAFT DEPARTURES - BASE FORECAST
FY 2009, 2014, 2019 AND 2029

Month	Monthly Passenger Aircraft Departures				
	Actual	Forecast			
	FY 2009	FY 2014	FY 2019	FY 2029	Distribution*
October	1,110	1,353	1,465	1,679	8.6%
November	1,082	1,334	1,444	1,655	8.4%
December	1,098	1,363	1,475	1,690	8.6%
January	1,154	1,355	1,466	1,681	8.6%
February	1,027	1,215	1,315	1,507	7.7%
March	1,138	1,325	1,434	1,644	8.4%
April	1,117	1,287	1,393	1,597	8.1%
May	1,142	1,317	1,426	1,634	8.3%
June	1,149	1,321	1,429	1,638	8.4%
July	1,171	1,338	1,448	1,660	8.5%
August	1,149	1,326	1,435	1,644	8.4%
September	1,102	1,266	1,371	1,571	8.0%
Total	13,439	15,800	17,100	19,600	100.0%



* Average based on data for FY 2005-2009

Sources: Jackson Municipal Airport Authority for actual data and Unison Consulting, Inc. for forecasts, 2009

Table 4-42
JACKSON-EVERS INTERNATIONAL AIRPORT
PMAD COMMERCIAL PASSENGER AIRCRAFT OPERATIONS - BASE FORECAST
FY 2009, 2014, 2019 AND 2029

	Actual	Forecast		
	FY 2009	FY 2014	FY 2019	FY 2029
Annual	27,834	32,600	35,200	40,200
Peak Month[1]	2,308	2,812	3,036	3,467
PMAD[2]	74	91	98	112
PMAD Peak Hour[3]	7	8	9	10

[1] Represents 8.6 percent of annual aircraft operations
[2] Peak month aircraft operations divided by 31 days
[3] Represents 9.2 percent of PMAD aircraft operations

Sources: Jackson Municipal Airport Authority for actual data and Unison Consulting, Inc. for forecasts, 2009

4.4.5 Forecast Commercial Aircraft Landed Weight

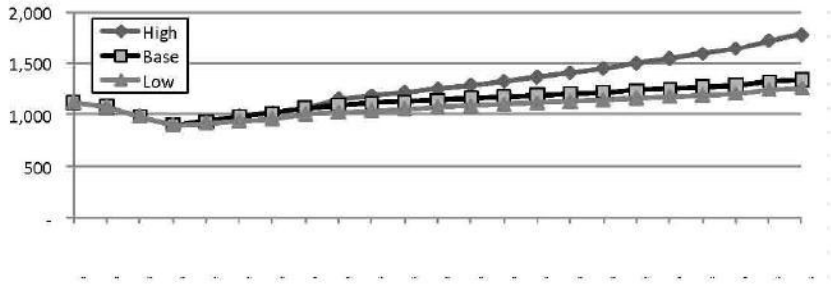
Forecasts of commercial aircraft landed weight are derived from forecasts of commercial aircraft departures (or arrivals), taking into account the composition of the aircraft fleet projected to serve the Airport over the forecast period. *Table 4-43* presents the forecasts of commercial aircraft landed weight.

Table 4-43

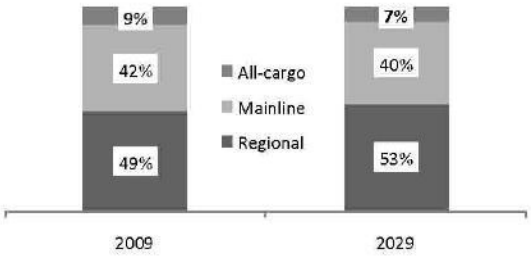
JACKSON-EVERS INTERNATIONAL AIRPORT
FORECAST COMMERCIAL AIRCRAFT LANDED WEIGHT, FY 2009-2029

	Landed Weight (In Million Pounds)				Average Annual Growth Rate			
	Actual	Forecast			Forecast			
	2009	2014	2019	2029	2009-14	2014-19	2019-29	2009-29
Base Forecast								
Mainline	418	416	448	537	-0.1%	1.5%	1.8%	1.3%
Regional	483	567	617	709	3.3%	1.7%	1.4%	1.9%
All-cargo	84	78	90	90	-1.5%	2.9%	0.0%	0.3%
Total	984	1,061	1,154	1,335	1.5%	1.7%	1.5%	1.5%
Low Forecast								
Mainline	418	392	422	507	-1.3%	1.5%	1.8%	1.0%
Regional	483	534	581	669	2.0%	1.7%	1.4%	1.6%
All-cargo	84	78	78	78	-1.5%	0.0%	0.0%	-0.4%
Total	984	1,003	1,081	1,254	0.4%	1.5%	1.5%	1.2%
High Forecast								
Mainline	418	419	485	712	0.0%	3.0%	3.9%	2.7%
Regional	483	571	668	940	3.4%	3.2%	3.5%	3.4%
All-cargo	84	78	130	130	-1.5%	10.9%	0.0%	2.2%
Total	984	1,067	1,284	1,781	1.6%	3.8%	3.3%	3.0%

Annual Commercial Aircraft Landed Weight (In Million Pounds)
Actual, FY 2007-09, and Forecast, FY 2010-29



Distribution by Air Carrier Group



Sources: Jackson Municipal Airport Authority for actual data and Unison Consulting, Inc. for forecasts, 2009

4.4.6 Forecast Non-Commercial Aircraft Operations

Baseline historical data on air taxi, GA and military operations were obtained from the TAF. Air taxi operations, GA operations, and the number of based aircraft are forecast to grow at the annual average growth rates projected for the U.S. GA fleet in the FAA Aerospace Forecasts, published March 2010. Forecasts of military operations are generated using exponential smoothing, an appropriate forecasting technique when historical data do not exhibit a clear increasing, decreasing, or cyclical trend. That is, the mean value of the variable being forecast is assumed to be constant, or *stationary*, over time.

Table 4-44 presents the forecasts of total aircraft operations, including commercial and non-commercial aircraft operations.

4.4.7 Comparison of Master Plan Base Forecasts with the Terminal Area Forecasts

Tables 4-45 through *4-49* present a comparison of the Master Plan Base Forecasts with the Terminal Area Forecasts:

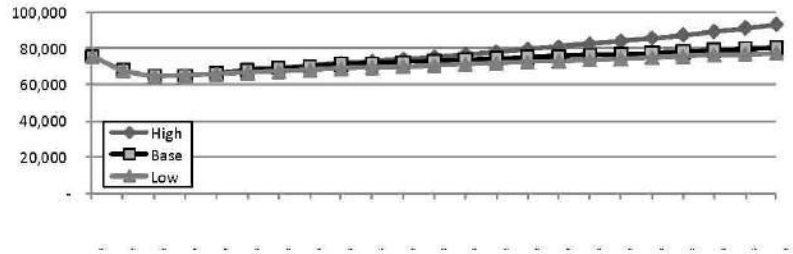
- **Enplanements** – The Master Plan forecasts are no more than 2.0 percent higher in FY 2014, 5.0 percent lower in FY 2019, and 23.0 percent lower in FY 2029 (*Table 4-45*).
- **Total Aircraft Operations** – The Master Plan forecasts are no more than 6.0 percent higher in FY 2014, 7.0 percent higher in FY 2019, and 6.0 percent higher in FY 2029 (*Table 4-46*).
- **Subtotal Air Carrier, Air Taxi and Commuter Aircraft Operations** – The Master Plan forecasts are no more than 9.0 percent higher in FY 2014 and 12.0 percent higher in FY 2019 and FY 2029 (*Table 4-47*).
- **Subtotal General Aviation and Military Aircraft Operations** – The Master Plan forecasts are no more than 3.0 percent higher in FY 2014, 2.0 percent higher in FY 2019, and 1.0 percent higher in FY 2029 (*Table 4-48*).
- **Based Aircraft** – The Master Plan forecasts are no more than 1.0 percent higher in FY 2014, 1.0 percent lower in FY 2019, and 4.0 percent higher in FY 2029 (*Table 4-49*).

Table 4-44

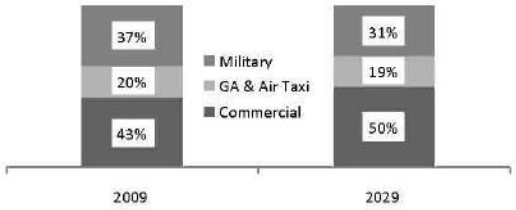
JACKSON-EVERS INTERNATIONAL AIRPORT
FORECAST TOTAL AIRCRAFT OPERATIONS, FY 2009-2029

	Aircraft Operations				Average Annual Growth Rate			
	Actual	Forecast			Forecast			
	2009	2014	2019	2029	2009-14	2014-19	2019-29	2009-29
Base Forecast								
Commercial	27,834	32,200	35,200	40,200	3.0%	1.8%	1.3%	1.9%
Air taxi	875	900	900	1,100	0.6%	0.0%	2.0%	1.2%
GA	12,005	12,400	13,000	14,400	0.6%	0.9%	1.0%	0.9%
Military	23,752	24,500	24,500	24,500	0.6%	0.0%	0.0%	0.2%
Total	64,466	70,000	73,600	80,200	1.7%	1.0%	0.9%	1.1%
Low Forecast								
Commercial	27,834	30,400	32,800	37,800	1.8%	1.5%	1.4%	1.5%
Air taxi	875	900	900	1,100	0.6%	0.0%	2.0%	1.2%
GA	12,005	12,400	13,000	14,400	0.6%	0.9%	1.0%	0.9%
Military	23,752	24,500	24,500	24,500	0.6%	0.0%	0.0%	0.2%
Total	64,466	68,200	71,200	77,800	1.1%	0.9%	0.9%	0.9%
High Forecast								
Commercial	27,834	32,400	38,000	53,200	3.1%	3.2%	3.4%	3.3%
Air taxi	875	900	900	1,100	0.6%	0.0%	2.0%	1.2%
GA	12,005	12,400	13,000	14,400	0.6%	0.9%	1.0%	0.9%
Military	23,752	24,500	24,500	24,500	0.6%	0.0%	0.0%	0.2%
Total	64,466	70,200	76,400	93,200	1.7%	1.7%	2.0%	1.9%
Based Aircraft	45	47	49	54	0.7%	0.8%	1.1%	0.9%

Annual Total Aircraft Operations
Actual, FY 2007-09, and Forecast, FY 2010-29



Distribution by Aircraft Category

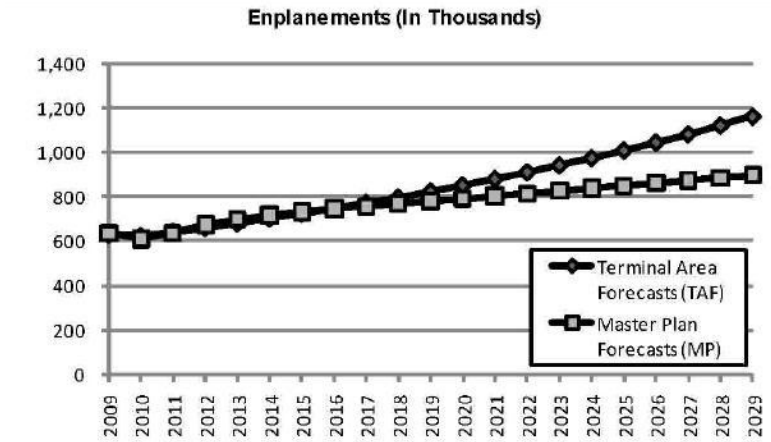


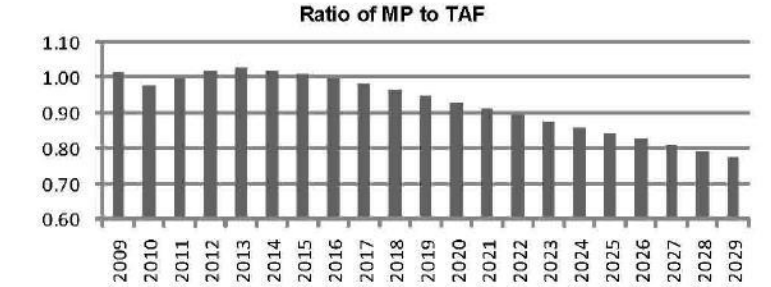
Sources: Jackson Municipal Airport Authority and Federal Aviation Administration for actual data and Unison Consulting, Inc. for forecasts, 2009

Table 4-45

JACKSON-EVERS INTERNATIONAL AIRPORT
COMPARISON OF BASE MASTER PLAN AND TERMINAL AREA FORECASTS
ENPLANEMENTS (IN THOUSANDS)

	FY 2009	FY 2014	FY 2019	FY 2029
Terminal Area Forecasts (TAF)	629	702	824	1,161
Master Plan Forecasts (MP)	637	716	780	898
Ratio of MP to TAF	1.01	1.02	0.95	0.77





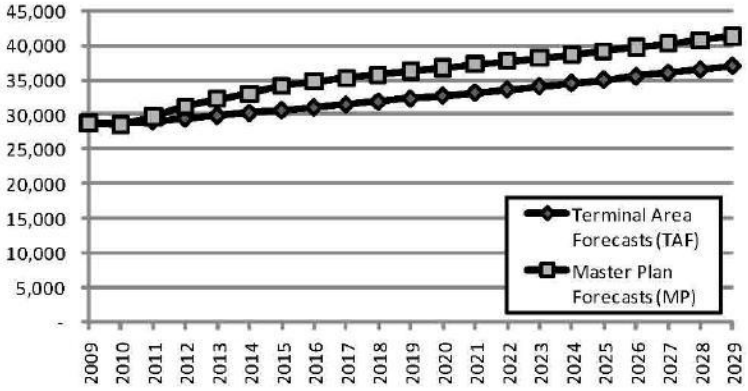
Sources: Unison Consulting, Inc. for the Master Plan forecasts and Federal Aviation Administration for the Terminal Area Forecasts (published December 2009)

Table 4-47

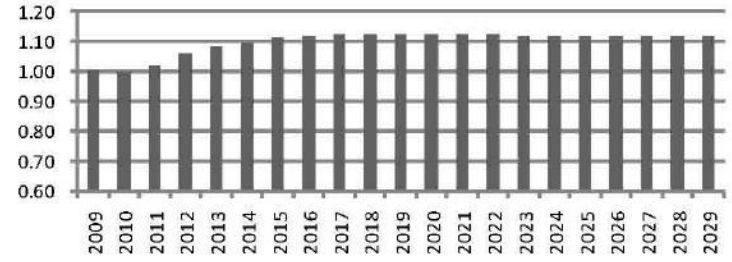
JACKSON-EVERS INTERNATIONAL AIRPORT
COMPARISON OF BASE MASTER PLAN AND TERMINAL AREA FORECASTS
SUBTOTAL AIR CARRIER, AIR TAXI AND COMMUTER AIRCRAFT OPERATIONS

	FY 2009	FY 2014	FY 2019	FY 2029
Terminal Area Forecasts (TAF)	28,709	30,229	32,291	36,992
Master Plan Forecasts (MP)	28,709	33,000	36,200	41,300
Ratio of MP to TAF	1.00	1.09	1.12	1.12

Subtotal Air Carrier, Air Taxi and Commuter Aircraft Operations



Ratio of MP to TAF



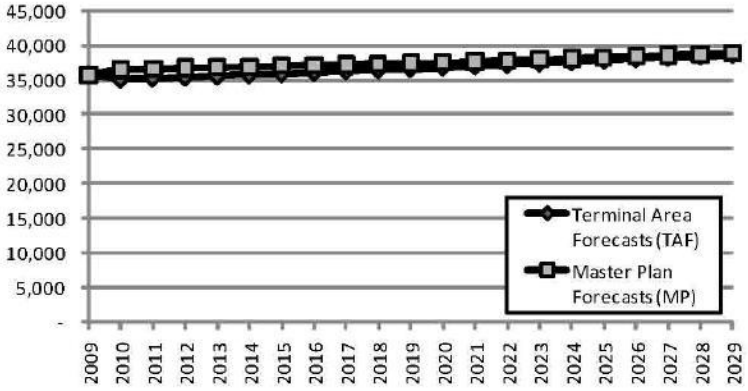
Sources: Unison Consulting, Inc. for the Master Plan forecasts and Federal Aviation Administration for the Terminal Area Forecasts (published December 2009)

Table 4-48

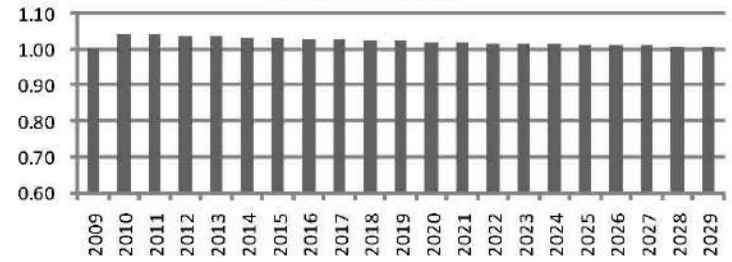
JACKSON-EVERS INTERNATIONAL AIRPORT
COMPARISON OF BASE MASTER PLAN AND TERMINAL AREA FORECASTS
SUBTOTAL GENERAL AVIATION AND MILITARY AIRCRAFT OPERATIONS

	FY 2009	FY 2014	FY 2019	FY 2029
Terminal Area Forecasts (TAF)	35,757	35,715	36,611	38,660
Master Plan Forecasts (MP)	35,757	36,900	37,400	38,900
Ratio of MP to TAF	1.00	1.03	1.02	1.01

Subtotal General Aviation and Military Aircraft Operations



Ratio of MP to TAF

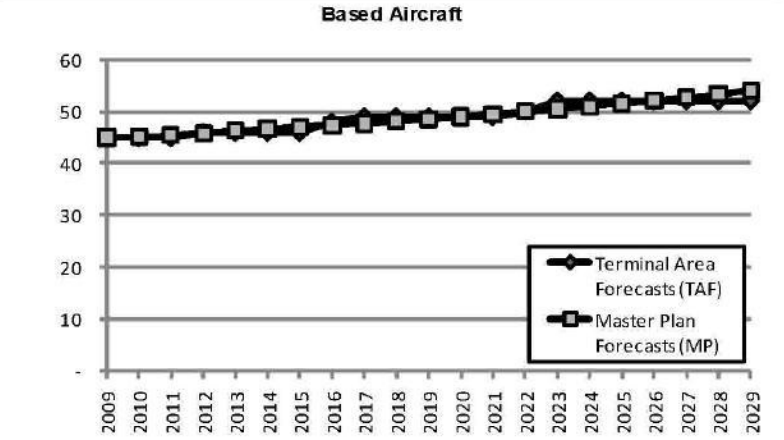


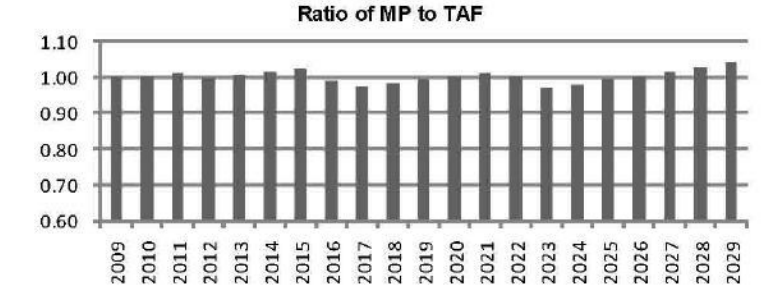
Sources: Unison Consulting, Inc. for the Master Plan forecasts and Federal Aviation Administration for the Terminal Area Forecasts (published December 2009)

Table 4-49

JACKSON-EVERS INTERNATIONAL AIRPORT
COMPARISON OF BASE MASTER PLAN AND TERMINAL AREA FORECASTS
BASED AIRCRAFT

	FY 2009	FY 2014	FY 2019	FY 2029
Terminal Area Forecasts (TAF)	45	46	49	52
Master Plan Forecasts (MP)	45	47	49	54
Ratio of MP to TAF	1.00	1.01	0.99	1.04





Sources: Unison Consulting, Inc. for the Master Plan forecasts and Federal Aviation Administration for the Terminal Area Forecasts (published December 2009)

For large, medium and small hub airports, the FAA criterion for consistency with the TAF is as follows: forecasts differ by less than 10 percent over the first five years and no more than fifteen percent over 10 years. By this criterion, the forecasts of total enplanements, total aircraft operations, based aircraft are deemed consistent with the TAF. The following key differences between the base forecasts under the Master Plan and the TAF, however, are noteworthy:

- After FY 2015, forecast annual enplanement levels under the Master Plan begin trailing those under the TAF and end significantly lower than the TAF by FY 2029. The lower forecast enplanement levels in the far future under the Master Plan reflect lower annual growth rates over the long term, which are more consistent with the long-term historical growth trends at the Airport than the higher annual growth rates predicted under the TAF. The lower annual growth rates over the long term, relative to those in the short- and medium-term, are also more reasonable to expect for a maturing market.

- Forecast annual commercial operations under the MP base scenario are higher than forecast annual commercial operations under the TAF, and this point to a difference in the underlying fleet mix projections. The MP forecasts of commercial operations are derived from forecast enplanement levels and specific assumptions about boarding load factors and aircraft fleet mix. The higher forecast commercial operations under the MP, compared to those under the TAF, suggest a higher proportion of smaller aircraft, such as the 50-seat regional jet, projected in the fleet serving the Airport. Based on information on the dates of delivery of this aircraft in the fleet of the airlines operating at the Airport, the 50-seat regional jet will remain a viable aircraft through the end of the forecast period, assuming a 30-year useful life.

4.5 FORECAST UNCERTAINTY AND RISK FACTORS

The forecasts of aviation activity have been developed based on specific assumptions about the availability and characteristics of airline service at the Airport, key measurable factors that drive demand for air travel, and information available at the time of the analysis. All these factors are subject to uncertainty; and others, not explicitly included in the forecast model, introduce risk and uncertainty into the forecasts. Some of these factors are discussed below.

4.5.1 Economic conditions

National economic conditions, as discussed in Section 4.1.7, influence aviation activity at the Airport. Economic expansion increases income, boosts consumer confidence, stimulates business activity, and increases demand. In contrast, an economic recession reduces income, diminishes consumer confidence, dampens business activity, and weakens demand. The U.S. economy peaked in December 2007 and went into a long and deep recession.[8] Economic indicators show that economic recovery has begun during the second half of 2009 (see *Figure 4-6* and *Table 4-7* in Section 4.1.7), but the pace and strength of the recovery remain uncertain. The forecast model is based on specific assumptions regarding the pace and strength of economic recovery, and actual economic performance could deviate from assumed trends.

[8] National Bureau of Economic Research Business Cycle Dating Committee, *Determination of the December 2007 Peak in Economic Activity*, December 11, 2008.

FAA Finding of the 2015 Forecast to be Reasonable and Acceptable

: Kevin.L.Morgan@faa.gov
Sent: Monday, July 12, 2010 10:05 AM
To: Robert D. Behr
Subject: Re: Jackson Part 150 - Noise Modeling Inputs

Bob,

I apologize for not responding sooner. I do not have any comments. The 2015 master plan forecast operations provided in table 2, are reasonable and acceptable. Thanks.

Kevin L. Morgan, P.E.
Program Manager
Jackson Airports District Office
601-664-9891

From:	"Robert D. Behr" <rbehr@hmmh.com>
To:	Kevin L Morgan/ASO/FAA@FAA
Date:	07/12/2010 10:31 AM
Subject:	Jackson Part 150 - Noise Modeling Inputs

Kevin,

A few weeks ago I sent you a link to a copy of our draft modeling inputs for the Jackson Part 150. As we are preparing to move forward with the modeling process, we are especially interested to know if you have any comments or inputs for our consideration before doing so. Of special interest is approval of the forecast operations that were developed in concert with the occurring Master Plan Update.

Appreciate any inputs or comments by the end of the week, if possible.

Thanks.

Bob

Robert D. Behr
Senior Consultant

Harris Miller Miller & Hanson Inc.
8880 Cal Center Drive, Suite 430 Sacramento, CA 95826
T 916.368.0707 x2226 | F 916.368.1201
rbehr@hmmh.com

Appendix G
NONSTANDARD SUBSTITUTION REQUEST MEMORANDUM

HARRIS MILLER MILLER & HANSON INC.
8880 Cal Center Drive, Suite 430
Sacramento, California 95826
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F 916.368.1201
W www.hmmh.com

April 12, 2010 Sent via email

Mr. Kevin Morgan
Federal Aviation Administration
Jackson Airports District Office
100 West Cross St., Suite B
Jackson, MS 39208-2307

Subject: Request for INM 7.0b Aircraft Type Substitutions

Reference: JAN Part 150 Update, HMMH Project No. 304140.001(002)

Dear Mr. Morgan:

Harris Miller Miller & Hanson Inc. (HMMH) is assisting the Jackson Municipal Airport Authority to prepare Part 150 Noise Exposure Map and Noise Compatibility Program updates for Jackson-Evers International Airport (JAN). One of the topics we discussed was identification of appropriate aircraft types included in Version 7.0b of the Integrated Noise Model (INM) to use as modeling "substitutes" for aircraft types that operate at the airport but are not included in the model's database. Consistent with Federal Aviation Administration (FAA) policies and procedures, we have followed up that conversation with this written request that identifies the aircraft types of interest (Appendix A).

In addition to "substitute aircraft types", the flight profiles for the C17 and HAWK INM aircraft types were modified or developed with concurrence from the 172 Airlift Wing (C17 operator) and recommendation from FAA/AEE (HAWK). The User-defined profiles for these two aircraft types are also submitted for FAA/AEE review in accordance with the INM 7.0 User's Guide, "Appendix B: FAA Profile Review and Checklist." The profile information submitted for FAA review and approval is included as Attachment B (C17) and Attachment C (HAWK). The INM study and inputs files are provided in an attached zip file to the email transmitting this request.

On behalf of the Jackson Municipal Airport Authority, we request that the FAA approve these INM 7.0b substitutes for each of these aircraft models and the User-defined profiles for the C17 and HAWK aircraft for use in the Jackson Part 150 update. We would be pleased to answer any questions that either FAA/AEE or you have regarding this request.

Thank you for your assistance on this matter.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert Behr
Senior Consultant

c: B. Wilson, JMAA, J. Mishler, RS&H, D. Aronzon, HMMH

Attch: Appendix A: INM Aircraft Substitution Requests and Suggestions
Appendix B: C17 Profile Review
Appendix C: HAWK Profile Review

HARRIS MILLER MILLER & HANSON INC.

Mr.Kevin Morgan, Federal Aviation Administration, Jackson Airports District Office
Request for INM 7.0b Aircraft Type Substitutions and User Profiles for Jackson Part 150 Update
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Appendix A

INM Aircraft Substitution Requests and Suggestions

This memorandum refers in some cases to recent guidance FAA provided HMMH for noise studies at Naples Municipal Airport (APF) and Charlotte/Douglas International Airport (CLT) . We have enclosed a copy of that previous FAA guidance following this discussion.

We have identified the following aircraft types included in the Part 150 database for which an FAA approved substitute is required. In each case, we have identified a recommended substitute from the INM 7.0b database. The bases for the recommendations are discussed following the table.

Table A1 Aircraft Types and Recommended INM Substitutions

#	Group	Aircraft Code	Represented Aircraft Models	Recommended INM Substitution
1	Jet	C56X	Cessna 560XL Citation Excel	CNA55B
2	Jet	C680	680 Citation Sovereign	LEAR35
3	Jet	CL30	BD-100 Challenger 300	CL600
4	Jet	E50P	Embraer EMB-500 Phenom 100	CNA510
5	Jet	GALX	1126 Galaxy, Gulfstream 200	CL601
6	Jet	PRM1	Premier 1, 390	CNA500
7	Piston	MAUL	Maule (Various Models)	GASEPF
8	Piston	BE36	36 Bonanza	CNA206
9	Piston	COL3	Lancair Columbia 300	GASEPV
10	Piston	COL4	Lancair Columbia 400	GASEPV
11	Piston	EXP	Amateur Built Experimental	GASEPV
12	Piston	GLAS	Stoddard-Hamilton Glasair	GASEPV
13	Piston	SR22	Cirrus SR-22	GASEPV
14	Turboprop	P180	Piaggio P-180 Avanti	DHC6
15	Turboprop	P46T	Piper Malibu Meridian	SD330
16	Turboprop	PC12	Pilatus PC-12, Eagle	1900D
17	Turboprop	TBM7	Socata TBM-700	1900D

1. Cessna 560XL Citation Excel C56X

We propose to model the C56X operations with INM type CNA55B as recommended for APF.

In the APF Part 150 the FAA recommended the Cessna Citation Bravo (CNA55B) as the substitution aircraft for the Cessna Citation Excel (Cessna model 560XL)[1]. Both aircraft have the PW500 series power plants with similar certification noise levels shown in Table A2.

Table A2 Noise Certification Data from Cessna 560XL and Cessna 550 Bravo

MANUFACTURER	TYPE DESIGNATION	MTOW (lb)	MLW (lb)	ENGINE MANUFACTURE / TYPE DESIGNATOR	NOISE LEVEL (EPNdB)		
					FLY OVER	LATERAL	APPROACH
Cessna	Cessna 560XL	20,000	18,700	PW545A	72.4	85.3	93.1
Cessna	Cessna 550 Bravo	14,800	13,500	PW530A	73.7	85.2	91.2
Source: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls							

[1] Naples Municipal Airport Part 150 Study with INM 7.0a, HMMH Project No. 302720, FAA approval issued September 16, 2009 and follow-on email on INM 7.0b from FAA/AEE October 7, 2009.

HARRIS MILLER MILLER & HANSON INC.

Mr.Kevin Morgan, Federal Aviation Administration, Jackson Airports District Office
Request for INM 7.0b Aircraft Type Substitutions and User Profiles for Jackson Part 150 Update
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2. Cessna Citation Sovereign C680

We propose to model the C680 operations with INM type LEAR35 as recommended for APF.

In the APF Part 150 the FAA recommended the LEAR35 as the substitution aircraft for the Cessna Citation Sovereign (Cessna model 680)[2]. This aircraft is relatively new (certification completed in 2004) with a maximum takeoff weight (MTOW) of 30,300lb., maximum landing weight (MLW) of 27,100 lb. and is powered by two Pratt & Whitney Canada PW306C turbofans rated at 5,770 pounds (lb.)[3] These weights are similar to INM types CL600 and CL601. Table A3 provides certification values for these three aircraft and the LEAR35.

Table A3 Noise Certification Data from Cessna 680, Bombardier CL-601, Bombardier CL-600 and Learjet LEAR35

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max. Landing Weight (lb.)	Powerplant	Noise Level (EPNdB)		
					Takeoff	Sideline	Approach
Cessna	Cessna 680	30,298	27,099	PW 306C	71.8	87.5	91.3
Bombardier	CL-601-3R	45,100	36,000	CF-34-3A1	79.80	85.70	90.10
Bombardier	CL-600	36,000	33,000	ALF-502	81.60	89.30	91.20
Learjet	LEAR 35 A	18,000	14,300	TFE731-2-2B	83.6	87.4	91.3

Notes:
All weights converted from certification data into pounds.
Source for Cessna 680: EASA Record No. A2489, file "TCDSN Jets (080711).xls", as posted on http://easa.europa.eu/ws_prod/c/c_tc_noise.php on November 12, 2008
Source for Bombardier CL-601, CL-600 and LEAR35: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls

3. BD-100 Challenger 300 CL30

We propose to model the CL30 with INM type CL600 as recommended for CLT and approved for APF.

The CLT submission also addressed this aircraft. The CL30[4] is a relatively new twin-engine corporate jet with a MTOW of 38,500 lb. and MLW of 33,750 lb. The aircraft's Honeywell HTF7000 (formerly AS907) engines are rated between 6,500 lb. to 8,050 lb. This is comparable to the INM type CL600 (MTOW 36,000 lb., MLW of 33,000 lb. and max. static thrust 7,500 lb. according to INM7.0b) and INM type CL601 (MTOW 43,100 lb, MLW of 36,000 lb. and max. static thrust 9,220 lb. according to INM 7.0b). In the CLT request for this project the case was made for using the CL601 as the match for the CL30; however, the FAA recommended the CL600.

[2] Naples Municipal Airport Part 150 Study with INM 7.0a, HMMH Project No. 302720, FAA approval issued September 16, 2009 and follow-on email on INM 7.0b from FAA/AEE October 7, 2009.
[3] Information presented here for the C680 is from "Jane's All the World's Aircraft 2007-2008" Jane's Information Group Limited, Sentinel House, Coulsdon, Surrey, UK (ISBN-10 0 7106 2792 0, http://jawa.janes.com) pp. 734-744.
[4] Data presented here regarding the Bombardier Challenger 300 is from "Jane's All the World's Aircraft 2005-2006" Jane's Information Group Limited, Sentinel House, Coulsdon, Surrey, UK (ISBN 0 7106 2684 3, http://jawa.janas.com) pp 49-50.

HARRIS MILLER MILLER & HANSON INC.

Mr.Kevin Morgan, Federal Aviation Administration, Jackson Airports District Office
Request for INM 7.0b Aircraft Type Substitutions and User Profiles for Jackson Part 150 Update
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Table A4 Noise Certification Data from Bombardier Challenger 300 and Bombardier CL-600

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max, Landing Weight (lb.)	Powerplant	Noise Level (EPNdB)		
					Takeoff	Sideline	Approach
Bombardier	BD-100-1A10 (CL 300)	38,500	33,750	AS907-1-1A	75.30	87.60	89.60
Bombardier	CL-600	36,000	33,000	ALF-502	81.60	89.30	91.20
Source: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls							

4. Embraer EMB-500 Phenom 100

We propose to model the EMB-500 Phenom 100 with INM type CNA510.

With inclusion of the Cessna Mustang in INM 7.0b as CNA510, it is deemed appropriate to also use the CNA510 INM aircraft to model the EMB-500. Both aircraft have the PW61X series engines.

Table A5 General Specification Data for Cessna Mustang and EMB-500 Phenom 100

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max, Landing Weight (lb.)	Powerplant
Cessna	Mustang Model 510	8,645	7,200	PW615F
Embrear	EMB-500 Phenom 100	10,472	9,766	PW617F

5. 1126 Galaxy Gulfstream 200

We propose to model the GALX operations with INM type CL601 as recommended for APF.

The Israel Aircraft Industries (IAI) 1126 Galaxy was renamed the Gulfstream G200 shortly after Gulfstream's parent company, General Dynamics, purchased Galaxy Aerospace in 2001. The aircraft has a MTOW of 34,850 lb. a MLW of 28,000 lb. and powered by two Pratt & Whitney Canada PW306A turbofan engines rated at 6,040 lb. each.[5] This is comparable to the INM type CL600 (MTOW 36,000 lb., MLW of 33,000 lb. and max. static thrust 7,500 lb. according to INM7.0a) and INM type CL601 (MTOW 43,100 lb., MLW of 36,000 lb. and max. static thrust 9,220 lb. according to INM 7.0b). Table A6 compares certification data for these three aircraft types. The CL601 matches slightly better than the CL600, especially on the sideline measurement.

Table A6 Noise Certification Data from IAI 1126 Galaxy/Gulfstream G200, Bombardier CL-601, and Bombardier CL-600

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max, Landing Weight (lb.)	Powerplant	Noise Level (EPNdB)		
					Takeoff	Sideline	Approach
Gulfstream	G200	34,850	28,000	PW306A	81.40	85.80	92.70
Israel Aircraft	IAI 1126 Galaxy	34,850	28,000	PW306A	81.40	85.80	92.70
Gulfstream	G200	34,850	28,000	PW306A	81.40	85.80	90.90
Bombardier	CL-601-3R	43,100	36,000	CF-34-3A1	79.80	85.70	90.10
Bombardier	CL-600	36,000	33,000	ALF-502	81.60	89.30	91.20
Source: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls							

[5] Data for this aircraft is from AC36-1H, Appendix 1 (March 2, 2010).

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6. Premier 1 390 PRM1

We propose to model the Beechcraft 390 Premier I (PRM1) with INM type CNA500 as recommended for CLT and approved for APF.

The PRM1 is a relatively new light twin-engine corporate jet. The maximum take-off weight is 12,500 lb. and maximum landing weight is 11,600 lb. The aircraft is powered by two William FJ44-2A turbofans, each rated at 2,300 lb.[6] The PRM1 is similar in weight and engines as the Cessna 525A (max take-off weight of 12,375 lb., max landing weight of 11,500 lb., powered by William FJ44-2C turbofans with max thrust of 2,400 lb.)[7], which has an INM standard substitution of CNA525 and is mapped to the CNA500. In addition, the Cessna 525A and the PRM1 have similar noise certification data as summarized in Table A7.

Table A7 Noise Certification Data from Cessna 525A and Bombardier Beechcraft 390 Premier I

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max. Landing Weight (lb.)	Powerplant	Noise Level (EPNdB)		
					Takeoff	Sideline	Approach
Cessna	525A Citation Jet II (CJ-2)	12,370	11,500	FJ44-2C	74.5	88.8	91.4
Raytheon	390 Premier	12,500	11,600	FJ44-2A	76.6	87.9	92.0
Source: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls							

7. Small Single Engine Fixed-Pitch Aircraft (Maule [Various Versions])

We propose to model these aircraft types as INM type GASEPF.

These aircraft are all small single-engine aircraft that would probably be best modeled as GASEPF.

8. Beechcraft Bonanza 36 BE36

We propose to model this aircraft type as INM type CNA206 as approved for PVD EIS[8].

The BE36 Beechcraft Bonanza is a single-engine propeller aircraft that is similar in weight and powerplant with the Cessna 206 as shown in Table A8.

Table A8 Estimated Maximum A-weighted Sound Levels for Cessna 206 and Beechcraft A36 Bonanza

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max. Landing Weight (lb.)	Powerplant	Noise Level (Est Lmax dB)	
					Takeoff	Approach
Cessna	206	3,300	3,300	IO-520-A	70.2	63.5
Beech	A36	3,600	3,600	IO-520-BA	71.0	64.0
Source: FAA AC 36-3H, Appendix 1 Approach and Takeoff 030210 as posted on http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/AEAB4E3E783D2B6086256E3700762A57						

[6] Data presented here regarding the Beech 390 Premier 1 is from ""Jane's All the World's Aircraft 2005-2006" pp 578-579 (see footnote 4 for full citation).
[7] Data presented here regarding the Cessna 525A are from "Jane's All the World's Aircraft 2005-2006" pp 646-647 (see footnote 4 for full citation).
[8] FAA approval for T.F. Green (PVD) Airport Improvement Program Environmental Impact Statement INM aircraft substitutes, November 5, 2009.

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9-13. Kit Aircraft (Lancair Columbia 300 and Columbia 400, Amateur Built Experimental, Stoddard-Hamilton Glasair, Cirrus SR-22)

We propose to model these aircraft types as INM type GASEPV.

These aircraft types have a variety of different engine options and, as such, are difficult to characterize without having detailed specifications of the actual aircraft flying into JAN. Therefore, a conservative grouping of these types with the GASEPV INM aircraft type is made.

14. Piaggio P-180 Avanti

We propose to model this aircraft type as INM type DHC6 as recommended for APF[9].

The Piaggio P-180 Avanti has two PT6A-66 turboprops which appear to be similar to the DHC6 turboprops, PT6A-27. Therefore, this aircraft should be in the same category.

15. Piper Malibu Meridian

We propose to model this aircraft type as INM type SD330 as recommended by the FAA for APF.

The SD330 INM type was recommended by the FAA for the Piper Malibu Meridian for the Van Nuys Airport Part 161 study[10] and approved for the APF Part 150 study.

16-17. Pilatus PC-12 and Socata TBM-700

We propose to model these aircraft types as INM type 1900D as recommended for APF.

The FAA approved the INM aircraft type 1900D for these single-engine turboprop aircraft in the APF study[11].

[9] Naples Municipal Airport Part 150 Study with INM 7.0a, HMMH Project No. 302720, FAA approval issued September 16, 2009 and follow-on email on INM 7.0b from FAA/AEE October 7, 2009.
[10] Van Nuys Airport (VNY) Part 161 Study with INM 6.2, HMMH Project No. 300701, FAA approval issued November 21, 2006.
[11] Naples Municipal Airport Part 150 Study with INM 7.0a, HMMH Project No. 302720, FAA approval issued September 16, 2009 and follow-on email on INM 7.0b from FAA/AEE October 7, 2009.

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FAA Email Confirming Use of Substitutions in INM 7.0b

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

From: Hua.He@faa.gov [mailto:Hua.He@faa.gov]
Sent: Wednesday, October 07, 2009 3:20 PM
To: Ted Baldwin
Cc: Ervin Dehn; James E. Ferguson III; Lindy.McDowell@faa.gov; rgirvin@translab.its.uci.edu; Robert C. Mentzer; Ted Soliday; joseph.dipardo@faa.gov; jake.plante@faa.gov
Subject: Re: Naples Part 150 Noise Exposure Map Substitutions

Hi Ted,

You seem to indicate that you plan to use newly released INM7.0b for APF Part 150 study instead of INM7.0a as mentioned in the previous request and the subsequent AEE letter. We concur with that we do encourage the use of the newest version of FAA models for noise analysis, and in this case it is INM7.0b. Since INM7.0b now has both Eclipse 500 VLJ and Robinson R44 added to the database, it is indeed not necessary to use substitutions anymore. You should model those two aircraft directly in INM7.0b.

Please let us know if you have further questions.

Best regards,

_____
Hua (Bill) He, Ph.D.
Office of Environment and Energy (AEE)
Federal Aviation Administration
800 Independence Ave., SW, Room 900W
Washington, D.C. 20591 USA
(202) 267-3565 office
(202) 267-5594 fax
hua.he@faa.gov

"Ted Baldwin" ebaldwin@hmmh.com
To: <rgirvin@translab.its.uci.edu>
10/06/2009 02:53PM
Cc: "James E. Ferguson III" <jferguson@hmmh.com>, "Robert C. Mentzer" rmentzer@hmmh.com>, Lindy McDowell/ASO/FAA@FAA, Hua He/AWA/FAA@FAA, "Ted Soliday" <TSoliday@flynaples.com>, "Ervin Dehn" <edehn@flynaples.com>
Subject: Naples Part 150 Noise Exposure Map Substitutions

Greetings, Raquel:

Thank you for your letter of September 16, 2009 identifying FAA Office of Environment and Energy approved substitutions for our use in modeling the Part 150 Noise Exposure Map updates for Naples Municipal Airport (copy attached).

U.S. Department of Transportation
Federal Aviation Administration

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

September 16, 2009

Ted Baldwin
Harris Miller Miller and Hanson Inc.
77 South Bedford Street
Burlington, Massachusetts 01803

Dear Mr. Baldwin,

The Office of Environment and Energy (AEE) has received on June 22, 2009 your memo dated June 17, 2009, referencing HMMH Project Number 302720.001.002 requesting approval for non-standard substitution of 34 aircraft of various types for noise modeling. This request is for the modeling of the Part 150 Noise Exposure Map and Noise Compatibility Program updates for Naples Municipal Airport (APF).

After an initial review of the proposed substitutions, AEE requested supplemental information including justifications for the aircraft chosen. An updated request with the supplemental information was received on July 31, 2009.

AEE concurs with 30 of the 34 proposed non-standard substitutions for this study. For Cessna 560XL Citation Excel, AEE would recommend the INM CNA55B because it uses the same type of engines (PW 500 series) and has similar noise certification level to that of 560XL. The proposed Lear35, on the other hand, seems to be too conservative for this study. For the Piaggio P-180 Avanti, AEE recommends INM DHC6 because it is a better match in both certificated noise levels and aircraft size. For the Pilatus PC-12, the SD330 was previously recommended by AEE. However, now that the Beechcraft 1900D is part of the INM database, it should provide a better match for the Pilatus PC-12. AEE also recommends the 1900D as a substitution for the Socata TBM-700 for the same reason.

The table below summarizes the AEE approvals and recommendations.

Please understand that this approval is limited to this particular study. Any additional projects or non-standard INM input will require separate review and approval from AEE.

Group	Aircraft Cc	Expanded Description of Represented Aircraft Model(s)	Proposed	AEE
Jet	C56X	560XL Citation Excel	LEAR35	**CNA55B**
Jet	C680	680 Citation Sovereign	LEAR35	**Concur**
Jet	CL30	BD-100 Challenger 300	CL600	**Concur**
Jet	ECL5	Eclipse 500	CNA510	**Concur**
Jet	G150	Gulfstream 150	LEAR35	**Concur**
Jet	GALX	1126 Galaxy, Gulfstream 200	CL601	**Concur**
Jet	GL5T	BD-700 Global 500	GV	**Concur**
Jet	GLEX	BD-700 Global Express	GV	**Concur**
Jet	H25C	BAe-125-1000	LEAR35	**Concur**
Jet	PRM1	Premier 1, 390 (Raytheon)	CNA500	**Concur**
Piston	AA1	AA-1 Yankee, Trainer, Tr2 (Grumman American)	GASEPF	**Concur**
Piston	BE36	36 Bonanza	GASEPV	**Concur**
Piston	CH20	CH-200 Zenith	GASEPV	**Concur**
Piston	COL3	LC-40, Columbia 300	GASEPV	**Concur**
Piston	DA40	DA-40 Katana, Diamond Star (Lancair Diamond)	GASEPF	**Concur**
Piston	DA42	DA-42 Twinstar (Lancair Diamond)	BEC58P	**Concur**
Piston	GA8	Gippsland GA-8 Airvan	CNA206	**Concur**
Piston	M4	M-4 Bee Dee, Jetasen, Rocket, Astro Rocket, Strata Rocket	GASEPF	**Concur**
Piston	P68	Parenavia P-68, Victor, Observer	BEC58P	**Concur**
Piston	RV7	Van RV-7	GASEPV	**Concur**
Piston	SR20	Cirrus SR-20	GASEPV	**Concur**
Piston	SR22	Cirrus SR-22	GASEPV	**Concur**
Piston	XL2	Liberty XL-2	GASEPF	**Concur**
Rotor	A139	Augusta AB-139	SA330J	**Concur**
Rotor	B430	Bell 430	S76	**Concur**
Rotor	EC35	Eurocopter EC-135/635	EC130	**Concur**
Rotor	EC45	Eurocopter EC-145	B222	**Concur**
Rotor	H269	Schweizer 269	H500D	**Concur**
Rotor	R44	Robertson R-44 Astro, Clipper, Raven	H500D	**Concur**
Rotor	S92	Sikorsky S-92 Helibus	S70	**Concur**
Turboprop	P180	Piaggio P-180 Avanti	SD330	**DHC6**
Turboprop	P46T	Piper Malibu Meridian	SD330	**Concur**
Turboprop	PC12	Pilatus PC-12, Eagle	SD330	**1900D**
Turboprop	TBM7	Socata TBM-700	GASEPF	**1900D**

Sincerely,

Raquel Girvin, Ph.D.
Manager
AEE/Noise Division

U.S. Department
of Transportation
Federal Aviation Administration

November 5, 2009

Richard Douchette
Environmental Program Manager
FAA New England Region, Airports Division
12 New England Executive Park
Burlington, MA 01803

Dear Mr. Douchette:

The Office of Environment and Energy has reviewed the technical memorandum submitted by you on behalf of Hanson Miller Miller & Harris Inc (HMMH). HMMH is part of the Vanasse Hangen Brustlin, Inc. (VHB) team developing the Airport Improvement Program Environmental Impact Statement (EIS) at T.F. Green Airport (PVD) in Providence, RI. Below are AEE's responses to the requests.

- Our office approves the use of the user-defined aircraft based on the CL600 and AL502L noise identifier to represent the J328 (Fairchild/Dornier 328 Regional Jet). We suggest using the departure spectral class of 104 instead of the suggested class of 113 to reflect that this aircraft has wing-mounted engines instead of tail-mounted engines.
- Our office approves the use of user-defined aircraft based on the DC86QN aircraft with DC870 NPD curves +4dB added to the curves to represent the DC-8-60 with Stage 3 hushkit.
- Our office cannot approve the use of the 737800 with increased departure profile weight to represent the Boeing 737-900 (737900) unless specific departure weight data for the 737900 aircraft at PVD can be documented. We recommend representing the Boeing 737-900 in the model with the 737800 without any increase in departure profile weight.
- Our office approves the use of extending the arrival profiles for each aircraft up to 7,000 ft (keeping the 3-degree descent and extrapolated speed values).
- Our office approves the use of the Airbus A319-131 to represent the Embraer 170 regional jet in INM 7.0a. However, AEE notes that the CRJ9-LR is a new aircraft available in INM7.0b and should be used as a substitute for the Embraer 170 for future modeling in INM 7.0b.
- The use of the INM type GV is approved for use to represent the Bombardier BD-700 Global Express/Global 5000 aircraft within the noise modeling.
- With standard INM substitutions such as the GV for the Canadair 700, AEE approval is not needed.
- Representing an IAI 1126 Galaxy/Gulfstream G200 with the INM type CL601 for noise modeling is approved.

- Our office does not approve the use of the INM type GASEPV to represent the Beechcraft Bonanza 36 in the noise modeling. Instead, we recommend the use of the Cessna 206 (INM type CNA206) to represent the aircraft.
- The use of the INM type 1900D to represent the Pilatus PC-12 for the noise modeling is approved.

Please understand that the approvals listed above are limited to this particular Airport Improvement Program Environmental Impact Statement (EIS) for T.F. Green Airport (PVD). Any additional projects or non-standard INM input will require separate approval.

Sincerely,

Raquel Girvin, PhD
FAA Office of Environment and Energy Noise Division Manager

Cc: Jake Plante, FAA Office of Airports, jake.plante@faa.gov
Carol Lurie, Vanasse Hangen Brustlin, Inc, clurie@vhb.com
Robert Mentzer Jr. Harris Miller Miller & Hanson Inc, rmentzer@hmmh.com

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Appendix B
C-17 Profile Review

Section 1 – Background

We are submitting this request for written approval for changes to the Integrated Noise Model, Version 7.0b, (INM) profiles in support of a 14 CFR Part 150 Study at Jackson-Evers International Airport (the Airport). The Jackson Municipal Airport Authority (the Authority) is the airport proprietor and sponsor of the study.

This section contains data on the C-17 operating procedures as provided by the Air Force Center for Engineering and the Environment (AFCEE) (attached) and reviewed for consistency by the Mississippi Air National Guard 172nd Airlift Wing (AW), the operators of the C-17 at the Airport. In support of the Part 150 process, we received confirmation on April 6, 2010 from the flight operations staff of the 172 AW, stating concurrence with the proposed aircraft profiles for modeling in the INM.

Section 2 – Statement of Benefit

The updated C-17 NOISEMAP profiles from AFCEE better conform to the profiles being flown at the Airport as verified by the 172 AW operations staff. The AFCEE climb and descent profiles and thrust settings during the various stages of flight provide a better representation of what is actually occurring or being flown by the Air National Guard pilots.

Section 3 – Analysis Demonstrating Benefit

The differences between the existing C-17 NOISEMAP profiles in INM7.0b and the recommended AFCEE profiles are primarily due to different power settings on approach and airspeeds and climb profile on departure. In addition, the Jackson C-17 departure and approach profile weights are approximately 70,000 – 75,000 pounds less than the existing INM profiles. Another variation is the airspeed for the departure climb profile. It appears that the existing NOISEMAP profile may be using calibrated airspeed rather than true airspeed. The updated profiles used the computed true airspeed derived from the formulas/equations found in Sections 2.3.3 and 2.3.4 in the INM Technical Manual for INM 7.0.

The analysis shows the AFCEE departure profile provides noise benefits of approximately -6 dB beyond 2.5 nautical miles from the brake release point. This benefit is generally due to the higher true airspeeds and greater climb gradients on climb-out. Within 2.5 nm of brake release, the two profiles are somewhat similar. For the approach profile, slightly higher thrust settings, true airspeeds, and lower altitudes provide higher SEL values under the flight path for the AFCEE profile. These levels are generally higher in the 2 – 6 nm range when the aircraft is in level flight at a higher thrust setting than the INM NOISEMAP profile.

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Tables B1 and B4 show the SEL results under the flight path from the AFCEE departure and approach, respectively; the NOISEMAP INM departure and approach profiles are presented for comparison. Tables B2 and B3 list the departure fixed-point profiles for the existing and new profiles and Tables B5 and B6 list the approach fixed-point profiles.

Section 4 – Concurrence on Aircraft Performance

A letter from 172 Airlift Wing stating agreement with these procedures is found as an attachment to this review.

Section 5 – Certification of New Parameters

The AFCEE profiles were input into the INM with the only adaptation being the conversion of the airspeed to true airspeed as mentioned previously. The AFCEE profiles are included as an attachment. We developed no new aircraft performance coefficients for this study. Altitudes were listed as feet above airfield elevation. We used percent Engine Pressure Ratio (%EPR) for all thrust settings which matches the units of thrust-settings used in the aircraft's associated noise-power-distance curves.

Section 6 – Graphical and Tabular Comparison

The figures following the tables present the results of the modeling analysis by showing the altitude, airspeed, and net corrected thrust per engine of the modeled procedures as a function of distance from brake release (departure) or distance to the runway (approach).

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Table B1. Comparison of C-17 Noise Impacts from Brake Release for INM NOISEMAP and AFCEE Departure Procedures
INM Aircraft Model: C17 Profile Weight: NOISEMAP (497,250#); AFCEE (430,000#)

Distance from Brake Release (nm)	INM NOISEMAP, SEL (dBA)	AFCEE Profile, SEL (dBA)	Difference SEL (dBA)
0.00	146.8	138.1	-8.7
0.50	138.7	137.9	-0.8
1.00	116.2	117.3	1.1
1.50	110.7	112.7	2.0
2.00	106.5	108.7	2.2
2.50	103.3	102.1	-1.2
3.00	99.6	96.3	-3.3
3.50	96.5	92.2	-4.3
4.00	93.9	89.2	-4.7
4.50	91.8	86.7	-5.1
5.00	90.2	84.2	-6.0
5.50	89.0	82.9	-6.1
6.00	88.0	81.5	-6.5
6.50	87.0	80.4	-6.6
7.00	86.2	79.6	-6.6
7.50	85.5	79.1	-6.4
8.00	85.0	78.6	-6.4.
8.50	84.4	78.2	-6.2
9.00	83.9	77.7	-6.2
9.50	83.4	77.3	-6.1
10.0	82.9	76.9	-6.0

Table B2. INM NOISEMAP C-17 Departure Parameters
Profile Weight: 497,250 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Engine Pressure Ratio (EPR)
0.0	0.0	0.0	1.35
0.6	0.0	123.0	1.35
2.6	700.0	160.0	1.30
4.6	1700.0	250.0	1.30
6.9	2700.0	250.0	1.30
16.5	5700.0	250.0	1.30
32.9	10000.0	250.0	1.30

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Table B3. AFCEE C-17 Departure Parameters
Profile Weight: 430,000 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Engine Pressure Ratio (EPR)
0.0	0.0	0.0	1.05
0.6	0.0	130.0	1.35
2.2	400.0	160.0	1.30
6.2	4400.0	269.0	1.30
14.2	7900.0	283.0	1.30
23.2	8900.0	288.0	1.30
32.9	10000.0	293.0	1.30

Table B4. Comparison of C-17 Noise Impacts from 10 nm to Landing for INM NOISEMAP and AFCEE Approach Procedures
INM Aircraft Model: C17 Profile Weight: NOISEMAP (401,440#); AFCEE (325,000#)

Distance to Touch Down (nm)	INM NOISEMAP, SEL (dBA)	AFCEE Profile, SEL (dBA)	Difference SEL (dBA)
10.0	86.6	89.7	3.1
9.5	87.7	90.5	2.8
9.0	88.7	91.3	2.6
8.5	89.7	91.5	1.8
8.0	90.9	91.7	0.8
7.5	91.1	91.8	1.2
7.0	90.9	92.1	1.2
6.5	91.1	92.9	1.8
6.0	91.0	93.8	2.8
5.5	91.3	94.7	3.4
5.0	91.3	95.8	4.5
4.5	92.4	96.9	4.5
4.0	93.6	98.3	4.7
3.5	94.9	99.1	4.2
3.0	96.3	100.0	3.7
2.5	97.8	101.1	3.3
2.0	99.6	102.5	2.9
1.5	101.7	104.2	2.5
1.0	104.5	106.4	1.9
0.5	108.6	109.7	1.1
0.0	114.8	115.0	0.2

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Table B5. INM NOISEMAP C-17 Approach Parameters
Profile Weight: 401,440 lb

Distance to Touch Down, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Engine Pressure Ratio (EPR)
33.1	10532.0	230.0	1.10
16.3	5000.0	230.0	1.10
8.1	2525.0	160.0	1.30
5.1	1600.0	120.0	1.08
0.15	50.0	120.0	1.08
0.0	0.0	120.0	1.08
-0.15	0.0	120.0	1.08

Table B6. AFCEE C-17 Approach Parameters
Profile Weight: 325,000 lb

Distance to Touch down, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Engine Pressure Ratio (EPR)
33.1	10532.0	295.0	1.10
16.1	3000.0	231.0	1.10
9.2	2000.0	165.0	1.30
7.2	2000.0	145.0	1.30
4.3	1160.0	140.0	1.30
0.15	50.0	130.0	1.10
0.0	0.0	120.0	1.10
-0.15	0.0	120.0	1.10

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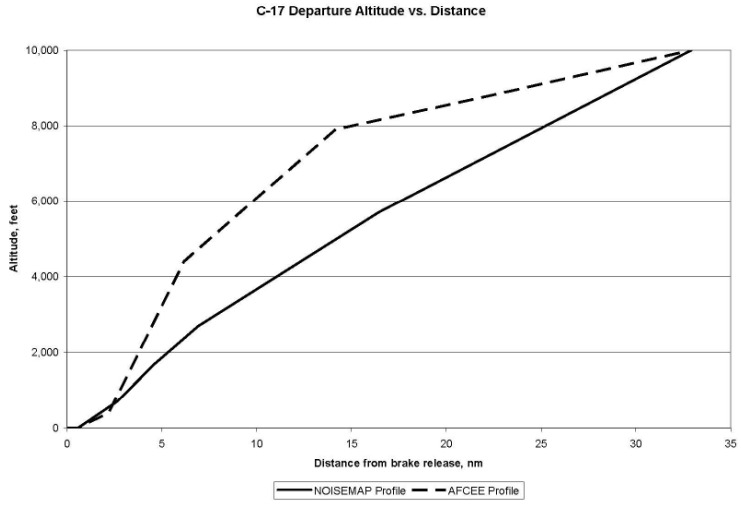

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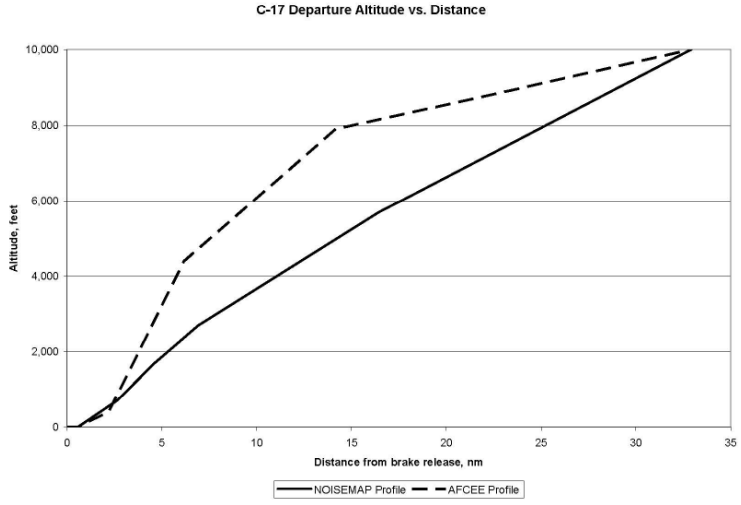

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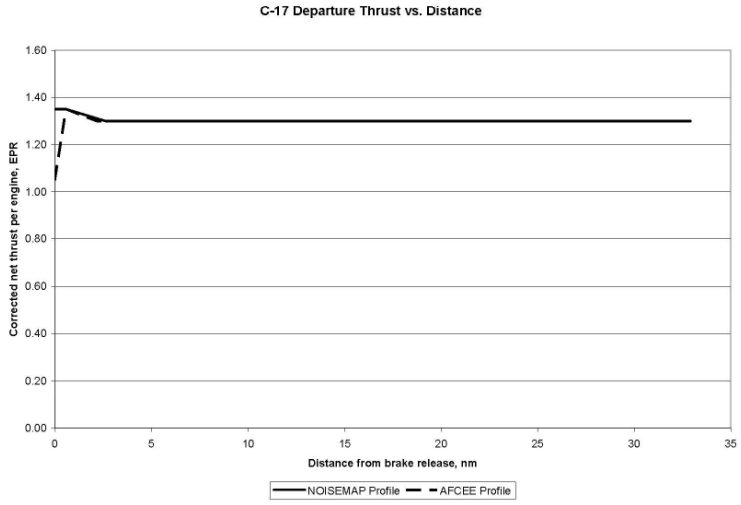

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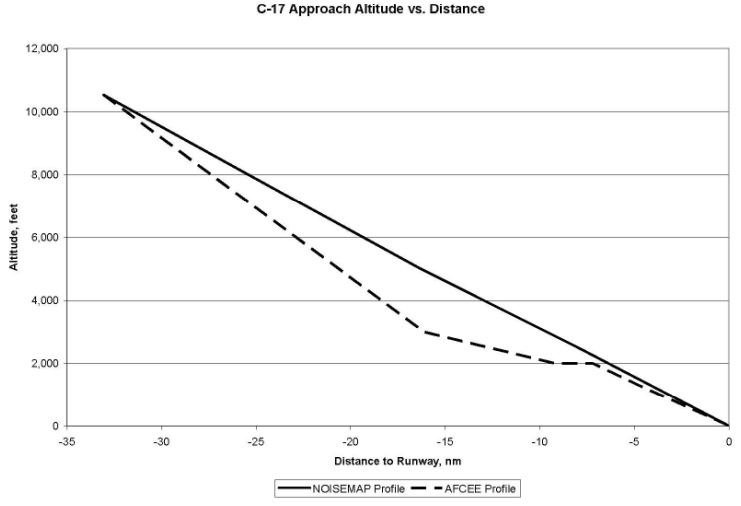

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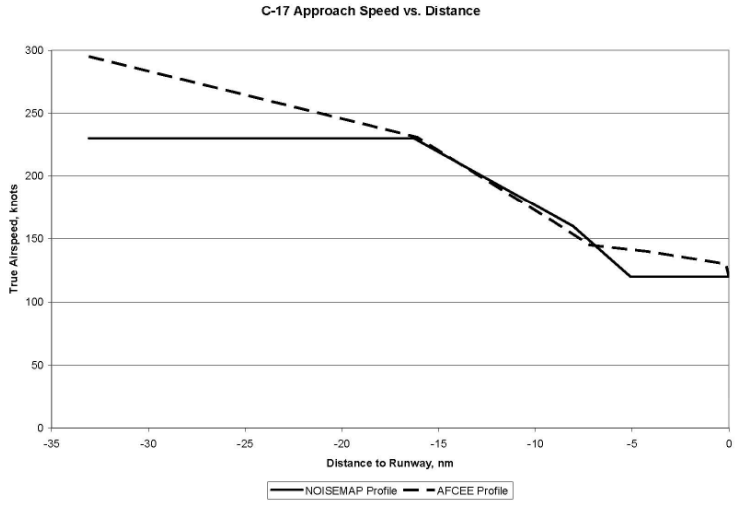

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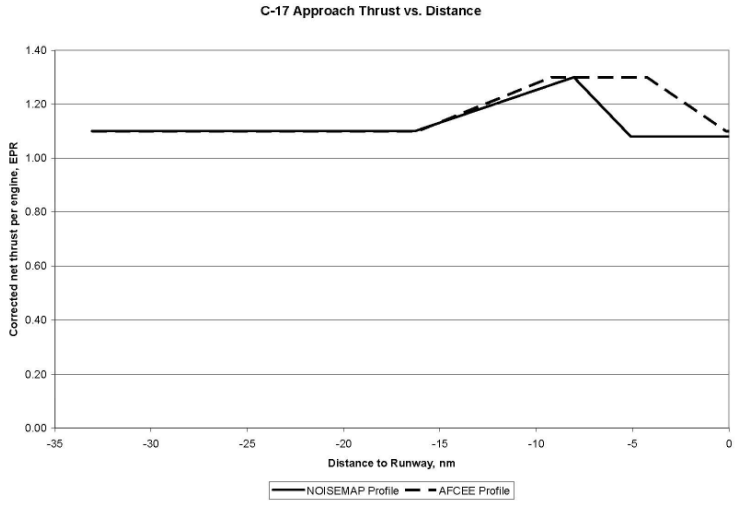

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April 2, 2010

Lt Col James P.Hartline, Jr.
Commander, 172 Operations Support Flight
Mississippi Air National Guard

Subject: Jackson C-17 Aircraft Performance Data Review and Concurrence

Reference: HMMH Project Number 304140.001

Dear Col Hartline:

On behalf of Harris Miller Miller & Hanson Inc. (HMMH), I would like to take this opportunity to thank you and Lt Col Chris Mackey for your time and effort in reviewing the C-17 profiles for operations at Jackson-Evers International Airport (JAN).

We have converted the aircraft performance data that you reviewed into procedures readable by the Federal Aviation Administration's Integrated Noise Model (INM). Because these procedures are different from the standard procedures provided in the INM, we would like your review and written concurrence that our modeled procedures accurately depict your actual procedures. We need your concurrence that the new profiles fall within reasonable bounds of the aircraft performance for your operations at JAN before we request FAA approval. With your concurrence and FAA approval, these modeled procedures will then be used as inputs to the JAN noise model for updating the FAA Part 150 Noise Compatibility Program Noise Exposure Maps.

I have included the data that was provided by the Air Force Center for Engineering and the Environment (AFCEE) as generic C-17 data developed from measurements at Dover AFB, as well as the INM NOISEMAP data, for your review in the attached aircraft specific discussion. We provide a brief comparison of the profile parameters and the overall noise effects. Tables show the specifics of the procedures/profiles and graphic depictions compare the differences in aircraft performance profile altitude, speed, and net thrust. **Based on your review, we would propose to use the AFCEE aircraft profile data with aircraft weights for Mississippi Air National Guard aircraft as provided and reflected in the tables.**

Following the data tables and graphics, we have included a statement of concurrence. If you agree with these data, please sign and return a copy of the concurrence form to us. If you have any questions about what we have done, please contact us so we can resolve the issue as quickly as possible.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.368.0707, ext 2226 or via e-mail at rbehr@hmmh.com. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert D. Behr
Senior Consultant

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C-17 Departure and Arrival

The differences between the INM NOISEMAP and the AFCEE procedures are primarily due to the different profile weights, power settings and climb/descent profiles. The AFCEE profiles are based on measurements and observations done at Dover AFB a few years ago.

Table 1 compares the SEL results for departure under the flight path at various distances from brake release. Tables 2 and 3 show the departure input parameters. Table 4 compares the SEL results under the flight path at various distances from touch down. Tables 5 and 6 show the approach input parameters.

The analysis shows that except for right off the end of the runway, the Jackson-AFCEE profile generally is 5-6 dB quieter on departure and 3-4 dB louder on approach between 2-5 nm from landing. The increase in noise level on approach is due primarily to the higher power setting (EPR 1.30 vs. 1.08).

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The Mississippi Air National Guard concurrence with modeled procedures:

The Mississippi Air National Guard certifies that the proposed profile (Jackson-AFCEE) for C-17 aircraft departing and arriving Jackson-Evers International Airport falls within reasonable bounds of the aircraft's performance.

JAMES HARTLINE, LT COL
Name

172 OSF/CC
Position/ Title

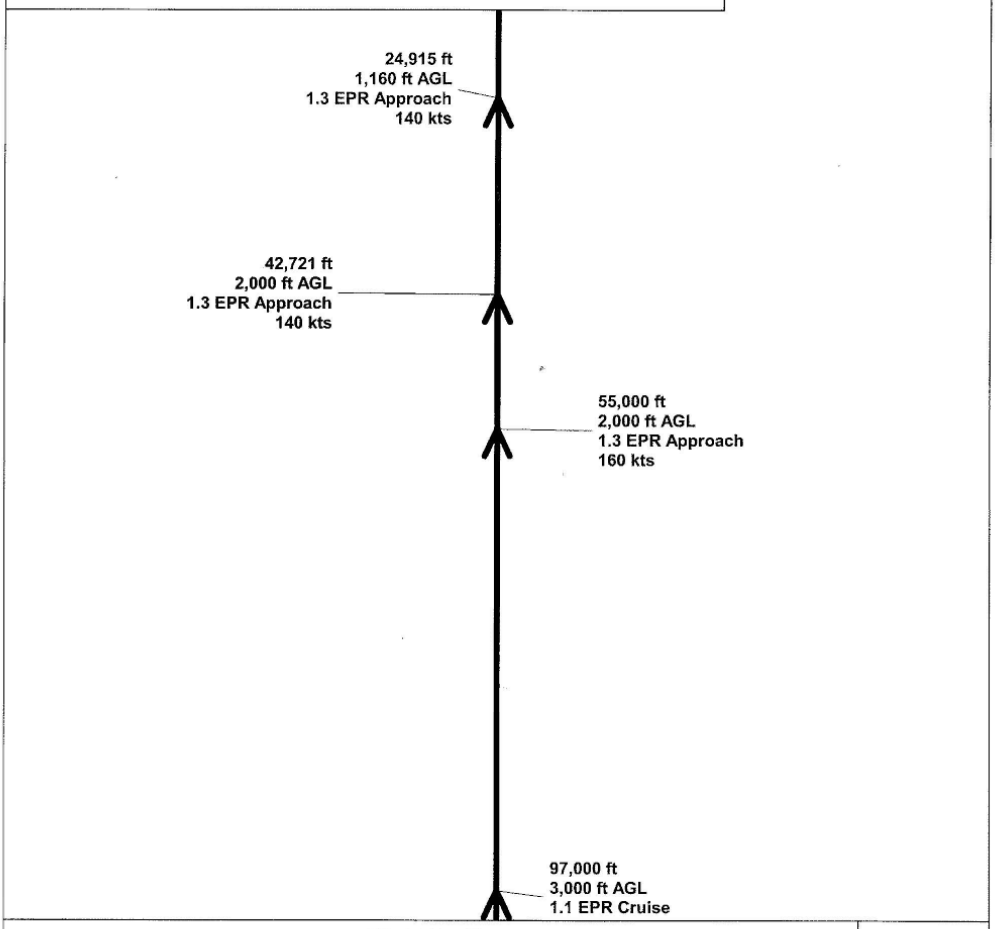
C-17 Flight Profile Library - Generic

Flight Profile Maps

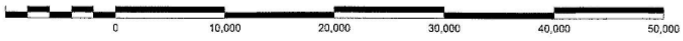
4:11 PM
Thursday, March 4, 2010
BaseOps 7.32

Flight Profile

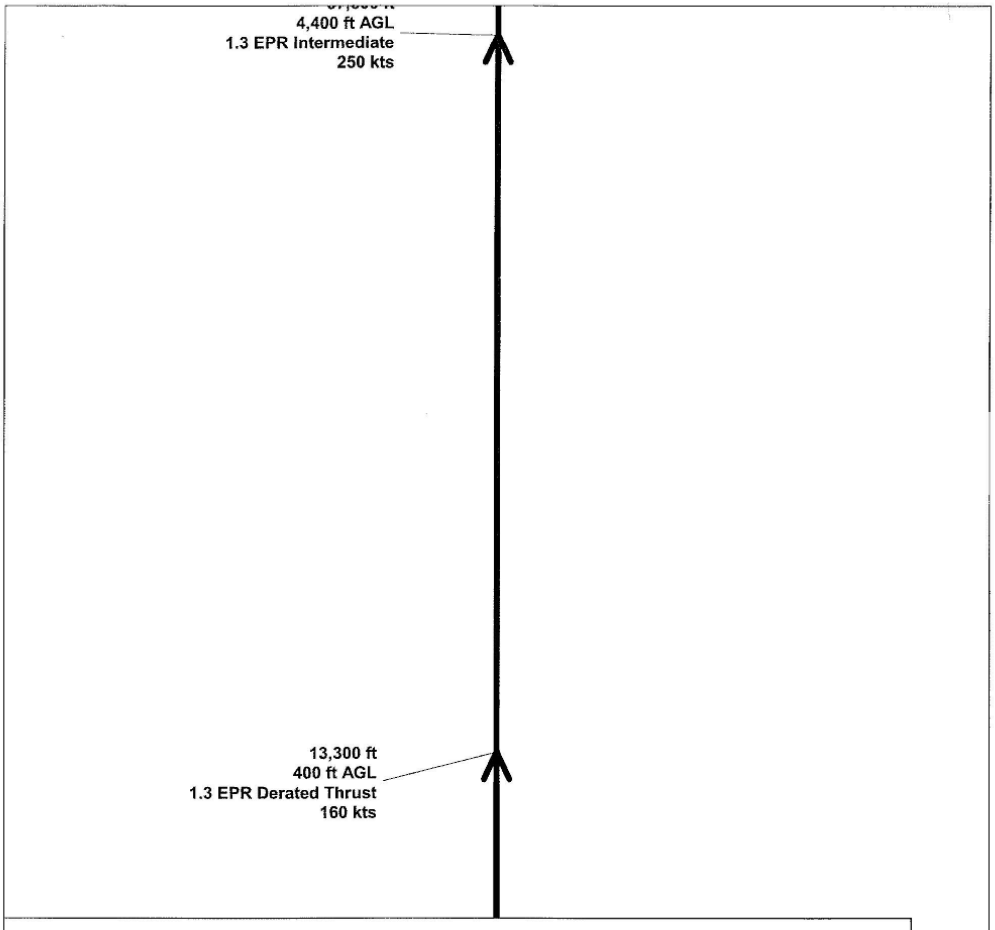
Point	Distance ft	Height ft	Power EPR	Speed kts	Notes
a	178,156	6,000 AGL	1.1 Cruise	250	
b	97,000	3,000 AGL	1.1 Cruise	220	
c	55,000	2,000 AGL	1.3 Approach	160	DROP GEAR
d	42,721	2,000 AGL	1.3 Approach	140	CONFIGURED
e	24,915	1,160 AGL	1.3 Approach	140	
f	0	50 AGL	1.1 Approach	130	



Flight Profile
C-17 ILS Arrival - generic
Flight Track: Arrival - Dummy Arrival Flight Track To indicate that a library profile is for arrivals, s Aircraft: Based C-17 Engine: F117-PW-100



Scale in Feet 1:166,000 (1 inch = 13,800 feet)



Flight Profile

Point	Distance ft	Height ft	Power EPR	Speed kts	Notes
a	0	0 AGL	1.05 Variable	0	5 Seconds prior to brake release
b	3,500	0 AGL	1.35 Derated Thrust	130	3500 FT LIFTOFF
c	13,300	400 AGL	1.3 Derated Thrust	160	
d	37,500	4,400 AGL	1.3 Intermediate	250	
e	86,000	7,900 AGL	1.3 Intermediate	250	
f	141,000	8,900 AGL	1.3 Intermediate	250	

Flight Profile
C-17 Departure - generic
Flight Track: Departure - Dummy Departure Flight Track To indicate that a library profile is for departure Aircraft: Based C-17 Engine: F117-PW-100

0 2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000 20,000

Scale in Feet 1:61,800 (1 inch = 5,150 feet)

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Appendix C
HAWK Profile Review

Section 1 – Background

We are submitting this request for written approval for additions to the Integrated Noise Model, Version 7.0b, (INM) profiles in support of a 14 CFR Part 150 Study at Jackson-Evers International Airport (the Airport). The Jackson Municipal Airport Authority (the Authority) is the airport proprietor and sponsor of the study.

The T-45/HAWK aircraft is a U.S. Navy training aircraft that frequents the Airport from its base at NAS Meridian. The INM identifies the HAWK aircraft type with associated noise-power-distance curves (npd); however, there are no defined approach and departure profiles for this aircraft. Attempts were made to contact the Navy for assistance in defining these profiles, but no information was forthcoming. Concurrently, a request was made through the FAA protocol channels to FAA/AEE to help identify any existing data for the T-45 aircraft or an appropriate substitute aircraft in the INM. The FAA/AEE response was, barring information from the Navy, the HAWK INM aircraft data would better accommodate our request with profiles adapted from the F-18 INM data for approach and departure (See attached email correspondence). The following sections review that profile development as well as the development of a touch-and-go profile adapted from the single-engine jet aircraft pattern profiles for the A7D in the INM.

Section 2 – Statement of Benefit

Since the INM does not have any aircraft profiles for the HAWK aircraft, it was necessary to develop profiles that realistically represented this aircraft's performance and noise contribution to the overall Airport operations. The HAWK INM aircraft type and noise signature was selected based on having the same engine type as that presented in other literature (such as "Jane's All the World's Aircraft[1]) and the recommendation of FAA/AEE. Using the F-18 profiles and relating the F-18 thrust settings to those identified in the HAWK npd curves, representative approach and departure profiles were developed. Additionally, the lack of pattern profiles for "Military" aircraft in the INM led to our looking for a military aircraft that is included in the "Civil" aircraft category that did have pattern profiles. Thus, the A7D became the INM aircraft type that was used to emulate and derive a touch-and-go profile for the HAWK.

Section 3 – Analysis Demonstrating Benefit

This analysis is somewhat different than a normal comparison of the User-defined profile compared to the Standard INM profile since the HAWK aircraft does not have any defined Standard INM profiles. At the recommendation of FAA/AEE, the profiles for the F-18 were

[1] "Jane's All the World's Aircraft 2002-2003" Jane's Information Group Limited, Sentinel House, Coulsdon, Surrey, UK (ISBN-0 7106 2423 9, pp. 219-221.

used for deriving similar such profiles for the HAWK and are included for comparison in the graphics of the approach and departure profiles. The altitude and airspeeds were somewhat compatible and the thrust settings in percent rpm were similar without the afterburner segments for the F-18. Similarly, the touch-and-go profile was derived through comparison to that Standard profile for the A7D, another single-engine military aircraft. With these profiles, it allowed the modeling of the HAWK aircraft using the npd curves developed for this aircraft and provided a more realistic representation of the noise signature for this aircraft's operations.

Tables C1 and C3 show the SEL results under the flight path for the User-defined approach and departure profiles for the HAWK aircraft.

Section 4 – Concurrence on Aircraft Performance

While no concurrence can be provided by either aircraft manual or operator, we attempted to follow the recommendation of FAA/AEE and derived the aircraft profiles shown later in this document.

Section 5 – Certification of New Parameters

The User-defined profiles were input into the INM.. We developed no new aircraft performance coefficients for this study. Altitudes were listed as feet above airfield elevation. We used percent Revolutions Per Minute (%RPM) for all thrust settings which match the units of thrust-settings used in the aircraft's associated noise-power-distance curves.

Section 6 – Graphical and Tabular Comparison

Tables C2, C4, and C5 and their corresponding figures present the results of the modeling analysis by showing the altitude, airspeed, and net corrected thrust per engine of the modeled procedures as a function of distance from brake release (departure) or distance from the runway (approach). Table 6 and corresponding figures show the same relationships for the A7D touch-and-go profile which was used as a model for deriving the HAWK touch-and-go profile.

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Table C1. HAWK Departure Noise Impacts from Brake Release
INM Aircraft Model: HAWK Profile Weight: 12,000 lb

Distance from Brake Release (nm)	INM USER, SEL (dBA)
0.00	143.1
0.50	135.0
1.00	108.0
1.50	92.2
2.00	87.2
2.50	83.9
3.00	81.2
3.50	79.1
4.00	77.6
4.50	76.4
5.00	75.2
5.50	74.0
6.00	72.9
6.50	71.9
7.00	71.0
7.50	70.1
8.00	69.2
8.50	68.3
9.00	67.6
9.50	66.8
10.0	66.1

Table C2. INM User-Defined HAWK Departure Parameters
Profile Weight: 12,000 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Thrust %RPM
0.0	0	0	97.00
0.8	0	150	97.00
1.2	415	250	97.00
1.3	600	250	92.50
3.3	2,800	305	92.50
13.2	11,200	365	92.50
32.9	20,000	365	92.50

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Table C3. HAWK Approach Noise Impacts from 10 nm to Landing
INM Aircraft Model: HAWK Profile Weight: 7,447 Lb

Distance to Touch Down (nm)	INM USER, SEL (dBA)
10.0	63.9
9.5	64.4
9.0	64.8
8.5	65.3
8.0	65.8
7.5	66.4
7.0	67.2
6.5	68.4
6.0	70.0
5.5	71.8
5.0	73.8
4.5	75.4
4.0	76.7
3.5	78.1
3.0	79.7
2.5	81.3
2.0	83.3
1.5	85.6
1.0	88.5
0.5	92.8
0.0	99.4

Table C4. INM User-Defined HAWK Approach Parameters
Profile Weight: 7,447 lb

Distance to Touch Down, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Thrust %RPM
33.1	10000	295	78.00
7.1	2500	250	78.00
5.1	1575	140	81.00
0.2	50	125	81.00
0.0	0	125	81.00
-0.1	0	125	81.00

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Table C5. INM User-Defined HAWK Touch-and-Go Parameters
Profile Weight: 7,447 lb

Distance to Touch Down and from Runway End, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Thrust %RPM
-5.0	1500.0	257.0	80.00
-4.7	1500.0	205.0	78.00
-3.1	1000.0	143.0	81.00
-1.2	300.0	140.0	81.00
-0.2	50.0	125.0	81.00
0.0	0.0	125.0	81.00
0.4	0.0	150.0	97.00
1.0	338.1	213.0	97.00
1.6	1500.0	235.0	92.50
2.5	1500.0	257.0	92.50
3.5	1500.0	257.0	80.00

Table C6. INM A7D Touch-and-Go Parameters
Profile Weight: 36,000 lb

Distance to Touch Down and from Runway End, nm	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Thrust ,lbs
-5.0	1500.0	346.0	2028.25
-4.9	1500.0	200.5	2028.25
-4.7	1500.0	200.5	1489.29
-3.1	1000.0	163.1	1462.36
-3.0	947.6	163.0	3481.89
0.0	0.0	160.7	3357.70
0.2	0.0	152.4	13124.15
0.4	0.0	174.4	12998.34
1.0	338.1	211.2	12850.52
1.6	1500.0	214.8	13054.37
3.4	1500.0	346.0	12318.09
3.5	1500.0	346.0	2028.25
3.5	1500.0	346.0	2028.25

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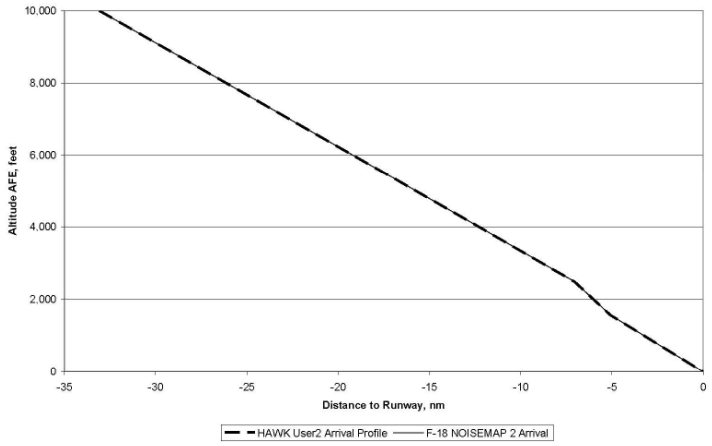
HAWK and F-18 Approach Altitude vs. Distance



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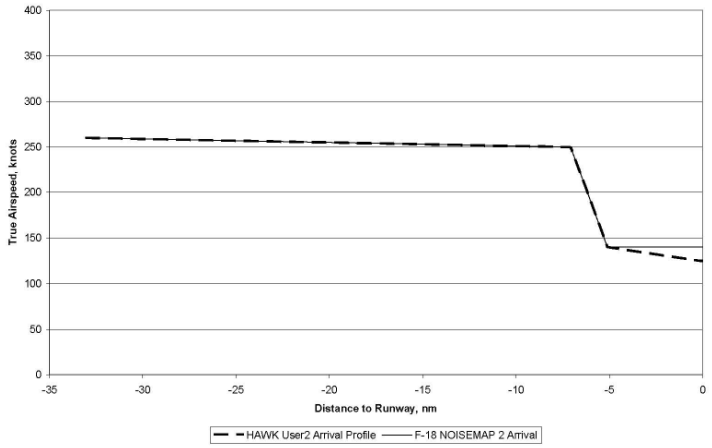
HAWK and F-18 Approach Speed vs. Distance



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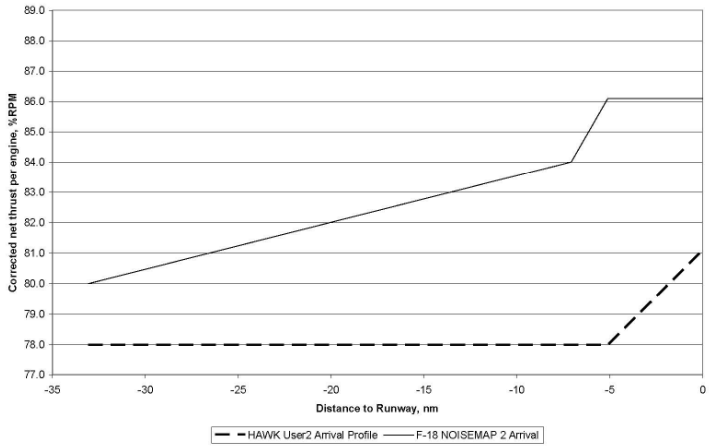
HAWK and F-18 Approach Thrust vs. Distance



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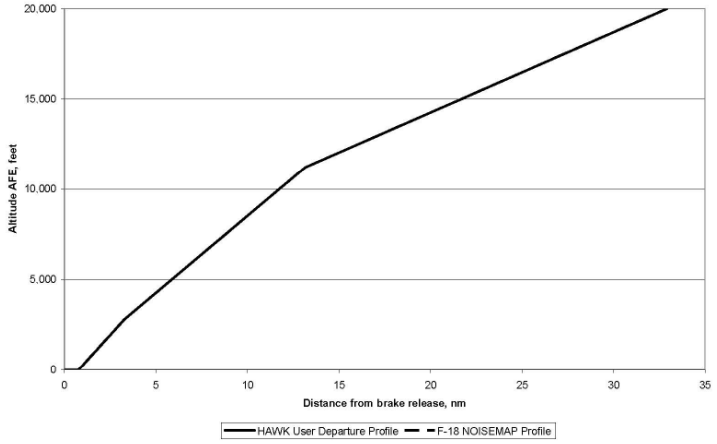
HAWK and F-18 Departure Altitude vs Distance



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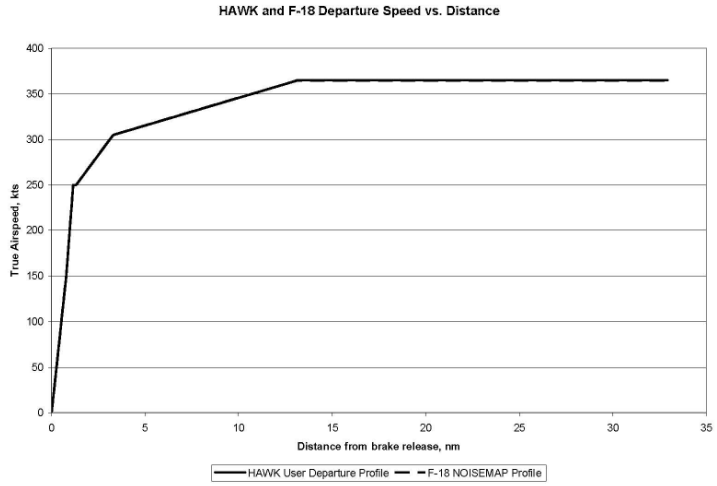

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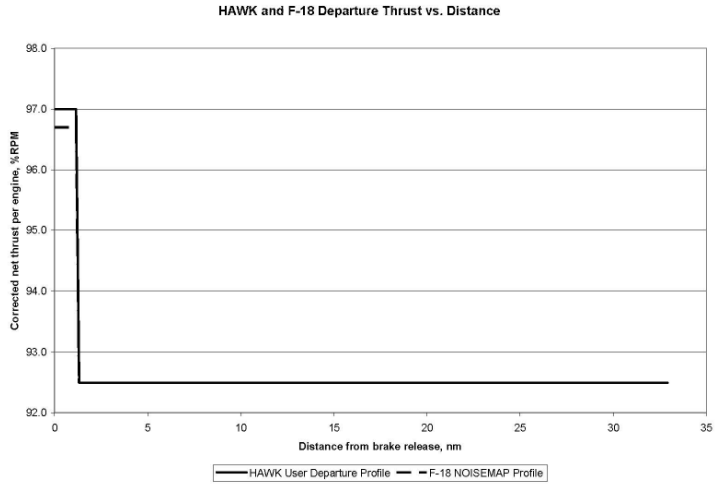

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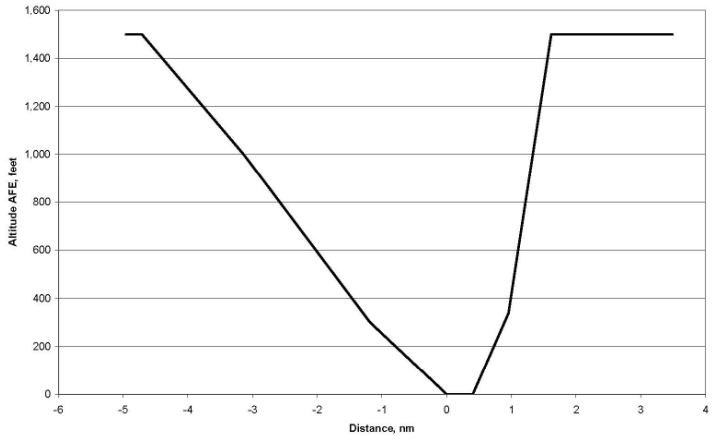
HAWK TGO Altitude vs. Distance



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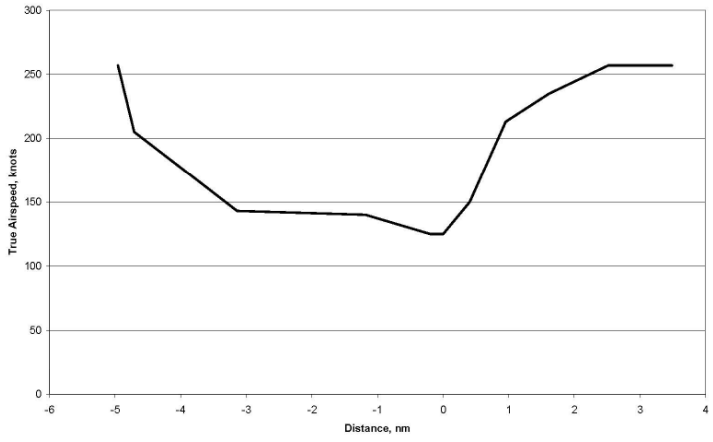
HAWK TGO Speed vs. Distance



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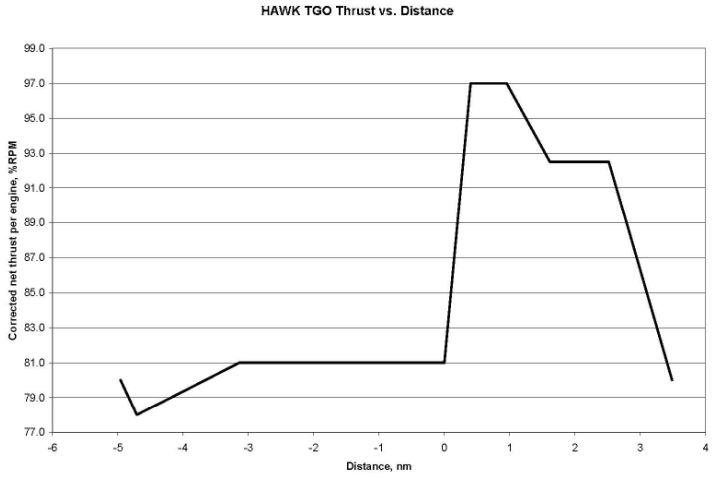

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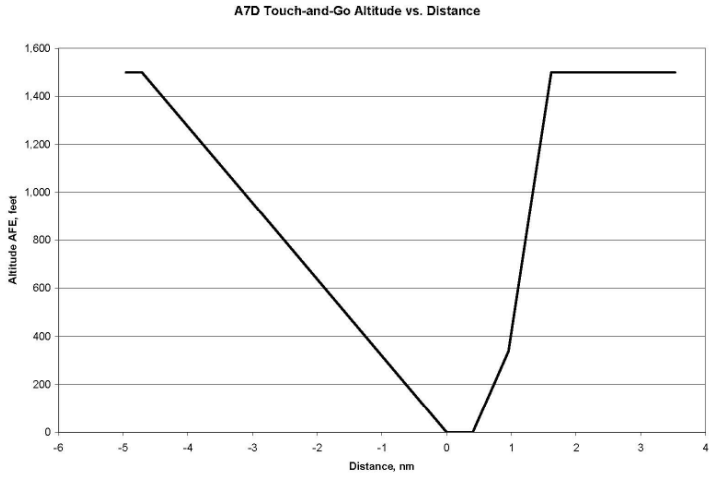

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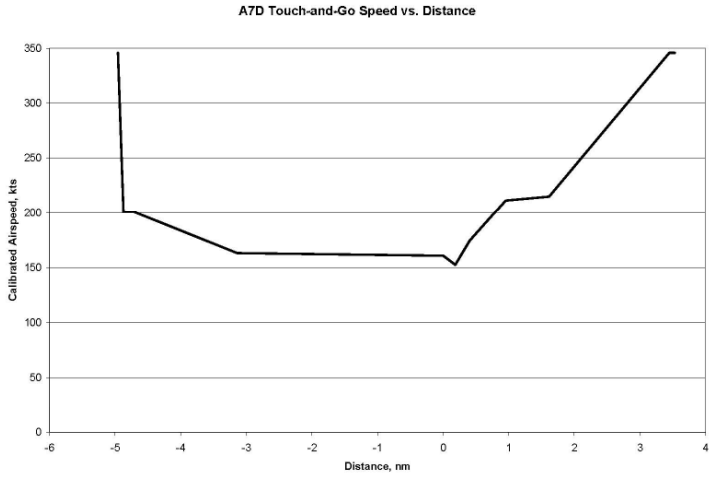

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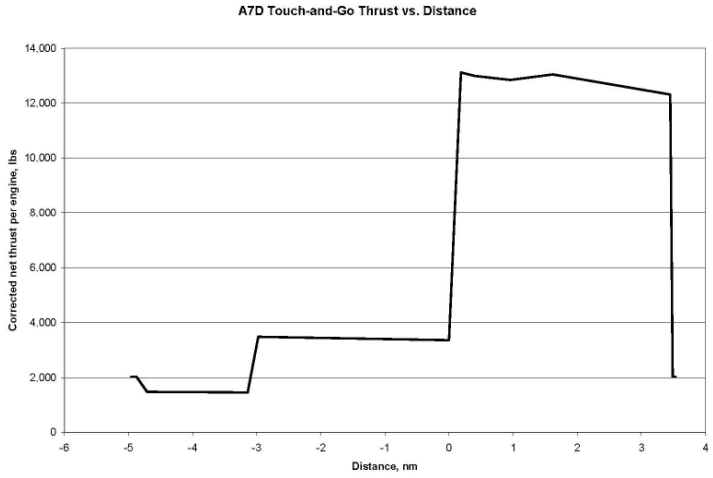

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FAA Response to Request for Information, T-45 Aircraft

From: Kevin.L.Morgan@faa.gov
Sent: Thursday, April 01, 2010 6:05 AM
To: Robert D. Behr
Subject: Fw: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

AEE's response below. Please let me know if this helps or you need more information. Thanks.

Kevin L. Morgan, P.E.
Community Planner
Jackson Airports District Office
601-664-9891

----- Forwarded by Kevin L Morgan/ASO/FAA on 04/01/2010 08:03 AM -----
From: Vicki Catlett/AWA/FAA
To: Kevin L Morgan/ASO/FAA@FAA, Dana Perkins/ASO/FAA@FAA
Cc: Jim Byers/AWA/FAA@FAA, Jake Plante/AWA/FAA@FAA
Date: 04/01/2010 08:01 AM
Subject: Fw: Re: Fw: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

---

AEE has provided their guidance, below.

Victoria L. Catlett
Environmental Specialist
Planning and Environmental Division, APP-400
(202) 267-8770
FAX (202) 267-5383

-----Forwarded by Vicki Catlett/AWA/FAA on 04/01/2010 09:00AM -----

To: Vicki Catlett/AWA/FAA@FAA
From: Joseph DiPardo/AWA/FAA
Date: 04/01/2010 08:37AM
Subject: Re: Fw: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

Vicki,

There are two issues with the T-45. After doing some research, I'm not sure the T-45 in INM is the correct representation of the T-45 trainer. I recommend using the INM aircraft designated HAWK, which is the non-carrier version of the T-45. Unfortunately, the HAWK does not have profiles either. If HMMH can get data from the Navy, that would be the ideal. If not, I would create a user defined aircraft using the noise data from the INM HAWK aircraft, and the profile data from the INM F-18 aircraft. The T-45 is the trainer for the F-18, so I would assume they perform similarly.

Joe

HARRIS MILLER MILLER & HANSON INC.

Mr.Kevin Morgan, Federal Aviation Administration, Jackson Airports District Office
Request for INM 7.0b Aircraft Type Substitutions and User Profiles for Jackson Part 150 Update
April 12, 2010
Page C 19

Vicki Catlett---04/01/2010 06:49:20 AM---Here is the original request. we're just looking for a timeline to report back. -- vlc Victoria L

From: Vicki Catlett/AWA/FAA
To: Joseph DiPardo/AWA/FAA@FAA
Date: 04/01/2010 06:49 AM
Subject: Fw: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

---

Here is the original request. we're just looking for a timeline to report back. -- vlc

Victoria L. Catlett
Environmental Specialist
Planning and Environmental Division, APP-400
(202) 267-8770
FAX (202) 267-5383

-----Forwarded by Vicki Catlett/AWA/FAA on 04/01/2010 06:48AM -----

To: Vicki Catlett/AWA/FAA@FAA
From: Jake Plante/AWA/FAA
Date: 03/22/2010 08:10AM
cc: Kevin L Morgan/ASO/FAA@FAA, Dana Perkins/ASO/FAA@FAA, Jim Byers/AWA/FAA@FAA
Subject: Fw: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

Since this is a Part 150, I'm transferring this request to you.

Thanks, Jake

----- Forwarded by Jake Plante/AWA/FAA on 03/22/2010 08:09 AM -----

From: Kevin L Morgan/ASO/FAA
ASO-JAN-ADO, Jackson, MS
To: Jake Plante/AWA/FAA@FAA
Cc: Dana Perkins/ASO/FAA@FAA
Date: 03/19/2010 11:47 AM
Subject: Fw: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

---

Jake,

Dana is out of the office but she is aware of this project. The consultant working an update to the Part 150 for Jackson-Evers International Airport, Jackson, MS has some questions before they formally submit a request for aircraft substitution. Could you please forward the attached memo to AEE?

Thanks.

HARRIS MILLER MILLER & HANSON INC.

Mr.Kevin Morgan, Federal Aviation Administration, Jackson Airports District Office
Request for INM 7.0b Aircraft Type Substitutions and User Profiles for Jackson Part 150 Update
April 12, 2010
Page C 20

Kevin L. Morgan, P.E.
Community Planner
Jackson Airports District Office
601-664-9891

----- Forwarded by Kevin L Morgan/ASO/FAA on 03/19/2010 10:40 AM -----

From: "Robert D. Behr" <rbehr@hmmh.com>
To: Kevin L Morgan/ASO/FAA@FAA
Date: 03/19/2010 10:19 AM
Subject: Request for T-45 Aircraft Data for Input to the Integrated Noise Model

---

Kevin,

Attached is a memo requesting INM profile data information on the T-45 aircraft operating at Jackson-Evers International Airport in support of the update to the NEMs. Request you forward to to the FAA/AEE point of contact or provide permission for us to contact them directly.

Thanks.

Bob

Robert D. Behr
Senior Consultant

Harris Miller Miller & Hanson Inc.
8880 Cal Center Drive, Suite 430 Sacramento, CA 95826
T 916.368.0707 x2226 | F 916.368.1201
rbehr@hmmh.com

Technical Excellence. Client Satisfaction.
www.hmmh.com

HARRIS MILLER MILLER & HANSON INC.
8880 Cal Center Drive, Suite 430
Sacramento, California 95826
T 916.368.0707
F 916.368.1201
W www.hmmh.com

May 4, 2010 Sent via email

Mr. Kevin Morgan
Federal Aviation Administration
Jackson Airports District Office
100 West Cross St., Suite B
Jackson, MS 39208-2307

Subject: Supplemental Request for INM 7.0b Aircraft Type Substitutions

Reference: JAN Part 150 Update, HMMH Project No. 304140.001(002)

Dear Mr. Morgan:

In our April 12, 2010 letter requesting FAA review and approval of INM substitution aircraft, we inadvertently omitted one aircraft type, the Coast Guard HU-25 or Falcon 20-G. We therefore submit the following information for FAA review.

Dassault Coast Guard HU-25 (Falcon 20-G)

We propose to model the HU-25 operations with INM type LEAR35.

The HU-25 or Falcon 20-G has different engines than the Falcon 20 (FAL20) INM aircraft which is classified as Stage 2. The Falcon 200 has similar engines to the HU-25 and has a LEAR35 as the INM substitution aircraft in INM7.0b. The following table compares various Falcon models with the LEAR35.

Table 1 Noise Certification Data for Falcon Aircraft and Lear 35

MANUFACTURER	TYPE DESIGNA-TION	MTOW (lb)	MLW (lb)	ENGINE MANUFACTURE / TYPE DESIGNATOR	NOISE LEVEL (EPNdB)		
					TAKE OFF	LAT-ERAL	APPR-OACH
Dassault	Falcon 20-G (M2500)	32,000	27,560	ATF3-6-2C	87.5	88.3	95.9
Dassault	Falcon 20 Basic	28,660	27,320	CF700-2D-2	90.0	92.3	101.7
Dassault	Falcon 200	32,000	27,600	ATF3-6A-4C	83.9	89.0	93.9
Lear	Lear 35/36	18,000	14,300	TFE731-2-2B	84.5	87.9	92.2
Source: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls							

Let us know if there are any questions.

Thank you for your assistance on this matter.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert Behr
Senior Consultant

Appendix H

FAA RECORD OF APPROVAL OF NONSTANDARD SUBSTITUTIONS

U.S. Department of Transportation
Federal Aviation Administration

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

May 13, 2010

Dana Perkins
Federal Aviation Administration
Atlanta Airports District Office
1701 Columbia Avenue
Campus Building, Suite 2-260
College Park, Georgia 30337

Dear Ms. Perkins,

The Office of Environment and Energy (AEE) has reviewed the proposed non-standard Integrated Noise Model (INM) aircraft substitutions and flight profiles for the FAR Part 150 Noise Exposure Map and Noise Compatibility Program updates for Jackson-Evers International Airport (JAN) as requested on April 15, 2010 by Harris Miller Miller & Hanson Inc. (HMMH) in assisting Jackson Municipal Airport Authority.

HMMH has proposed substitutions for eighteen aircraft types that currently do not have standard substitutions in the INM aircraft database. The HMMH proposed substitutions are summarized in the table below.

Aircraft	HMMH Proposed Substitution
Cessna 560XL Citation Excel	CNA55B
680 Citation Sovereign	LEAR35
BD-100 Challenger 300	CL600
Embraer EMB-500 Phenom 100	CNA510
1126 Galaxy, Gulfstream 200	CL601
Premier 1, 390	CNA500
Maule (Various Models)	GASEPF
36 Bonanza	CNA206
Lancair Columbia 300	GASEPV
Lancair Columbia 400	GASEPV
Amateur Built Experimental	GASEPV
Stoddard-Hamilton Glasair	GASEPV
Cirrus SR-22	GASEPV
Piaggio P-180 Avanti	DHC6
Piper Malibu Meridian	SD330
Pilatus PC-12, Eagle	1900D
Socata TBM-700	1900D
Dassault Coast Guard HU-25	LEAR35

AEE concurs with all of the proposed aircraft substitutions.

In addition, HMMH is requesting a modification to the flight profile for the C17 INM aircraft type. The profile is being modified to better conform to the profiles flown at JAN. HMMH has provided documentation from the Mississippi Air National Guard 172nd Airlift Wing (AW), the operators of the C-17 at JAN, verifying the modified profiles. Based on documentation from the Mississippi Air National Guard, AEE approves the use of the modified profiles for the C-17 aircraft.

HMMH is also modeling the HAWK aircraft type at JAN; however, there are no defined approach and departure profiles for this aircraft in INM. HMMH was unable to obtain assistance from the Navy in defining these profiles, therefore they are using the F-18 INM profile data to model the HAWK based on the recommendation of AEE. Given no other source of information, the F-18 was chosen because the T-45 is the trainer for the F-18 and AEE assumed the aircraft would perform similarly.

Please understand that this approval is limited to this particular Part 150 update for JAN. Any additional projects or non-standard INM input at JAN or any other site will require separate approval.

Sincerely,

Raquel Girvin, Ph.D.
Manager
AEE/Noise Division

cc: Vicki Catlett, APP-400

From: Kevin.L.Morgan@faa.gov
Sent: Tuesday, May 11, 2010 11:53 AM
To: Robert D. Behr
Subject: Fw: Jackson Part 50 - Falcon 50 and Falcon 900 Aircraft Supplemental Substitution Request

Updated response for your file. Still working your initial request. Thanks.

Kevin L. Morgan, P.E.
Program Manager
Jackson Airports District Office
601-664-9891

----- Forwarded by Kevin L Morgan/ASO/FAA on 05/11/2010 01:48 PM -----

From: Dana Perkins/ASO/FAA

To: Kevin L Morgan/ASO/FAA@FAA

Date: 05/11/2010 01:41 PM

Subject: Re: Fw: Jackson Part 50 - Falcon 50 and Falcon 900 Aircraft Supplemental Substitution Request

---

Dana,

Joe P. says it is legit.

Take care.

Jim Byers
Environmental Specialist APP-400
Planning and Environmental Division
202-267-3007
FAX 267-5383
----- Forwarded by Jim Byers/AWA/FAA on 05/11/2010 01:09 PM -----

From: Joseph DiPardo/AWA/FAA
AEE-100, Noise Division

To: Jim Byers/AWA/FAA@FAA

Date: 05/11/2010 10:24 AM

Subject: Re: Fw: Jackson Part 150 - Falcon 50/900 Aircraft

Hi Jim,

The INM substitution guidance for the Falcon 50 an 900 from 1995 is still valid. These aircraft have not been updated in INM.

Joe

file://K:\PROJECTS\CONSULT\304\304140_Jackson\NEMs\Substitutions\FAA_Respons... 5/27/2010

Jim Byers---05/11/2010 07:23:00 AM---Joe, Quick question.

From:	Jim Byers/AWA/FAA APP-400, National Planning and Env Division
To:	Joseph DiPardo/AWA/FAA@FAA
Date:	05/11/2010 07:23 AM
Subject:	Fw: Jackson Part 150 - Falcon 50/900 Aircraft

Joe,

Quick question.

We have a 150 going on and the consultant wants to make an INM aircraft substitution for the Falcon 50 and Falcon 900 using the 1995 INM V5.0.

I am having a hard time believing that portion of INM V5.0 would not have been updated in V7.0.

Jim Byers
Environmental Specialist APP-400
Planning and Environmental Division
202-267-3007
FAX 267-5383
Dana Perkins
Environmental Program Manager
FLO & SMS Planner
404-305-7152

Federal Aviation Administration
Atlanta Airports District Office
1701 Columbia Ave.
Campus Bldg., Suite 2-260
College Park, GA 30337-2747

-----Kevin L Morgan/ASO/FAA wrote: -----
To: Dana Perkins/ASO/FAA
From: Kevin L Morgan/ASO/FAA
Date: 05/11/2010 01:54PM
Subject: Fw: Jackson Part 50 - Falcon 50 and Falcon 900 Aircraft Supplemental Substitution Request

Dana,

I had him send me the attachments. The INM 6.0 users guide did not include these substitutions and AEE confirmed they were still valid in 2000. I don't have a problem accepting this as proposed rather than forwarding to AEE, what do you think?

Kevin L. Morgan, P.E.
Program Manager
Jackson Airports District Office
601-664-9891

----- Forwarded by Kevin L Morgan/ASO/FAA on 05/11/2010 12:48 PM -----

file://K:\PROJECTS\CONSULT\304\304140_Jackson\NEMs\Substitutions\FAA_Respons... 5/27/2010

From: "Robert D. Behr" <rbehr@hmmh.com>

To: Kevin L Morgan/ASO/FAA@FAA

Cc: "Dina Aronzon" <daronzon@hmmh.com>, "Robert C. Mentzer" <rmentzer@hmmh.com>

Date: 05/11/2010 11:48 AM

Subject: Jackson Part 50 - Falcon 50 and Falcon 900 Aircraft Supplemental Substitution Request

---

Kevin,

Attached is the reference page in the INM 5.0 User's Guide that refers to the substitutions for the Falcon 50 and Falcon 900. Also attached is the 2000 letter from Mr. John Gulding, FAA/AEE, reconfirming that the substitutions were still valid.

Request your consideration of this as a supplemental substitution request for use at Jackson in conjunction with the Part 150 study. Please forward as necessary to FAA/AEE to verify if this is still the approved substitution for these aircraft types.

Thanks.

Bob

Robert D. Behr
Senior Consultant

Harris Miller Miller & Hanson Inc.
8880 Cal Center Drive, Suite 430 Sacramento, CA 95826
T 916.368.0707 x2226 | F 916.368.1201
rbehr@hmmh.com

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www.hmmh.com

[attachment "FwdRe Falcon 50 and 900 substitutions.txt","INM_51_pg_8_9.pdf" removed by Dana Perkins/ASO/FAA]

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Appendix I

PUBLIC PARTICIPATION

Technical Advisory Committee sign-in sheets, November 17, 2010

ADVISORY COMMITTEE – MEMBER ATTENDANCE FORM
JACKSON-EVERS INTERNATIONAL AIRPORT
AIRPORT MASTER PLAN
November 17, 2010

	Name	Affiliation	Email
1.	Patrick Whelan	RS+H	———
2.	Mary Ellen Eagar	HMMH	meagar@hmmh.com
3.	FRANK GRATTON	RS&H	FRANK.GRATTON@RSANDH.COM
4.	MICHAEL SPITZER	RS&H	MICHAEL.SPITZER@RSANDH.COM
5.	Jeff Mishler	RS+H	———
6.	Don Andrews	RS+H	———
7.	Gloria Bender	Transolutions	GBender@transolutions.com
8.	Robert Behr	HMMH	RBehr@HMMH.com
9.	BILL MCNEASE	NEXT GROUP, LLC	BILLSING97@AOL.COM
10.	Clarence Edwards	Atlantic Aviation	Clarence.Edwards@AtlanticAviation.com
11.	TOMMY BOOTH	MDOT-AERONAUTICS	tbooth@mdot.state.ms.us
12.	DAN WESSON	FAA	dan.wesson@FAA.GOV
13.	C. Michael Ingram	FAA	charles.ingram@faa.gov
14.	Bonnie Wilson	JMAA	bwilson@jmaa.com

15.	Andrew Bomgardner	NATIONAL/Alamo/Enterprise	Andrew.Bomgardner@EHI.com
16.	Garry Miller	City of Flowood	gmiller@ci.flowood.ms.us
17.	DAVID Wynn	TSA	david.wynn@dhs.gov
18.	CHUCK LOTT	NEEL-SCHAFFER	chuck.lott@neel-schaffer.com
19.	Mike Thompson	Barranco	—
20.			
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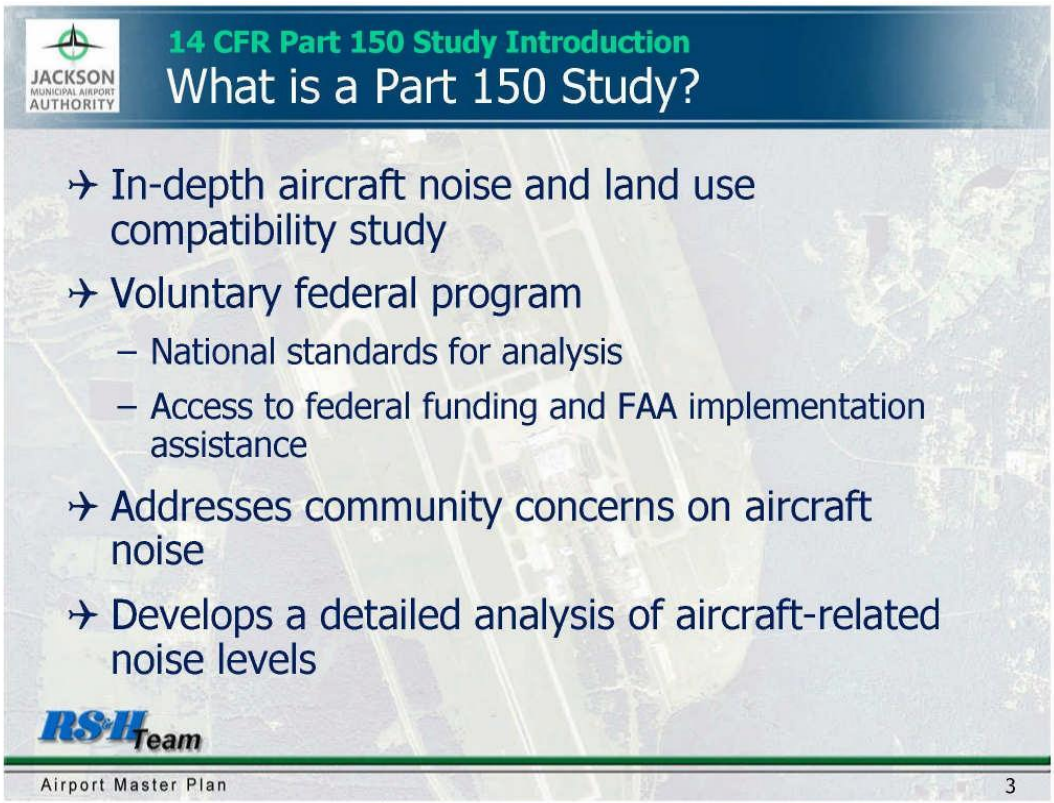
Citizen Advisory Committee sign-in sheets, November 18, 2010

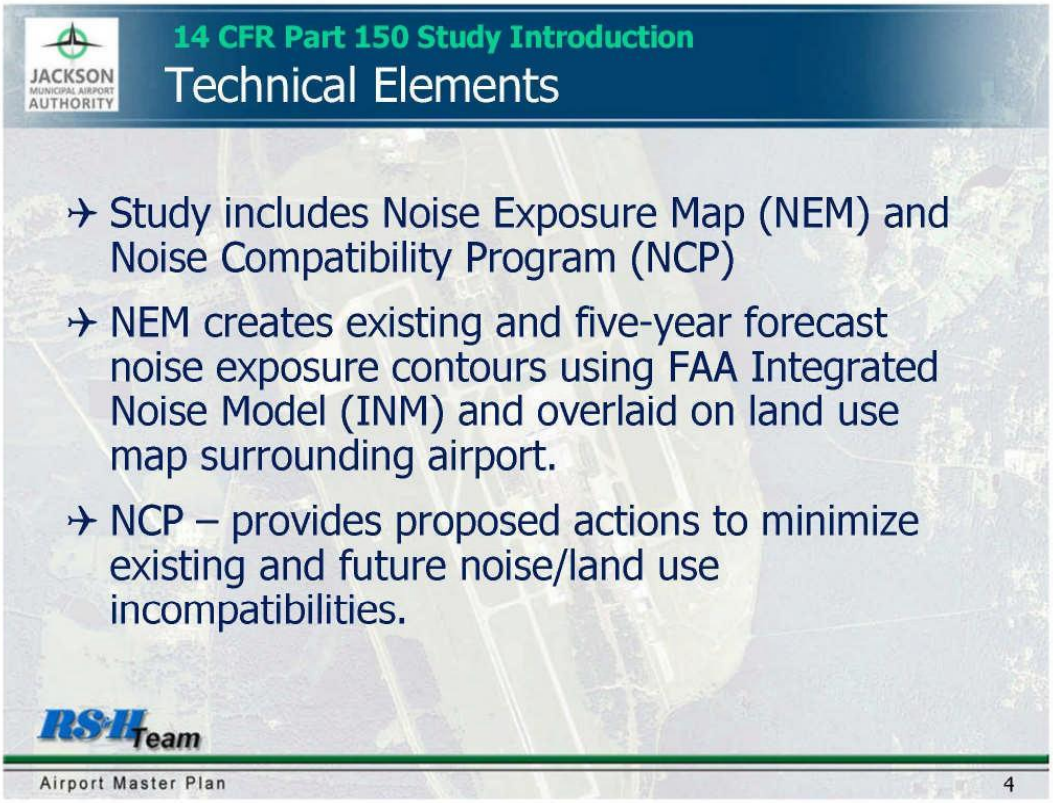
ADVISORY COMMITTEE – MEMBER ATTENDANCE FORM

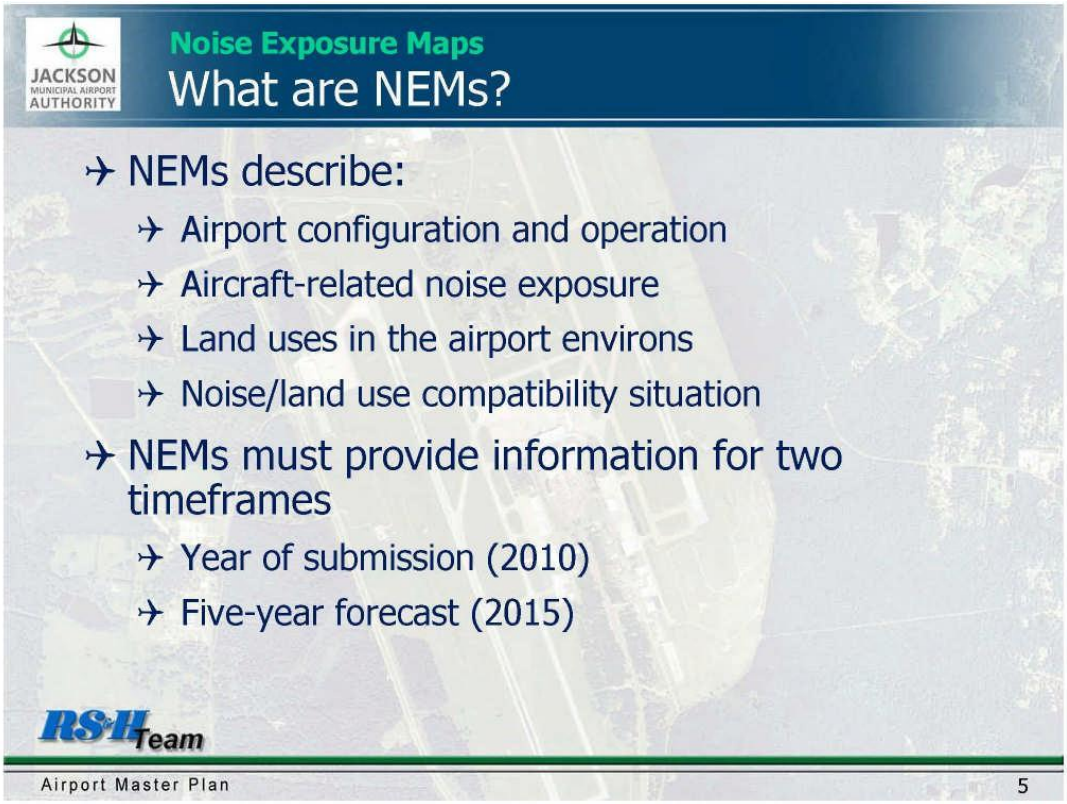
JACKSON-EVERS INTERNATIONAL AIRPORT
AIRPORT MASTER PLAN
November 18, 2010

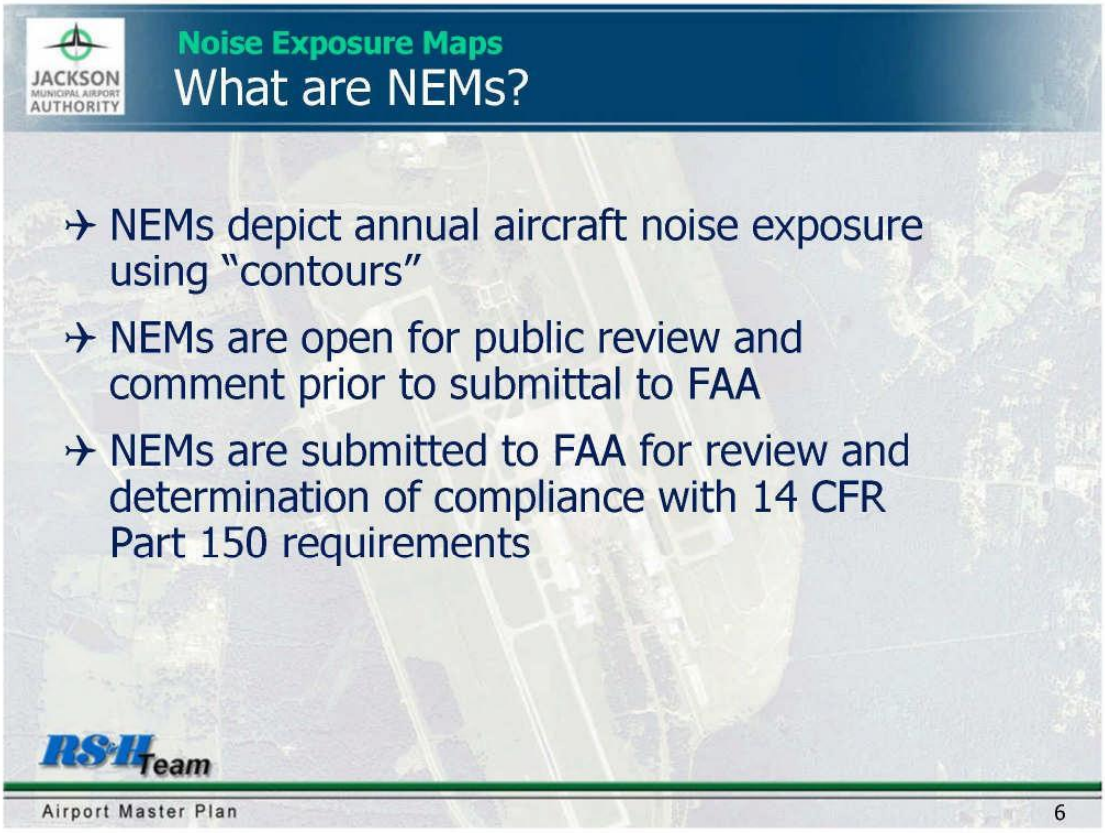
	Name	Affiliation	Email
1.	Patrick Whelan	RS and H	
2.	Jeff Miller	RS and H	
3.	Emma D. Sanders	Johnnie Patton	EDUNSz@aol.com.
4.	Gloria Bender	Trans Solutions	
5.	Robert Bell	HNTB	
6.	Mary Ellen Eagar	HNTB	
7.	Don Andrews	RS and H	
8.	Bonnie Wilson	JMAA	
9.	Mike Thompson	Barranco	
10.	Sean B Perkins	COS - mayor's office	
11.	Matt Holleman	Galaxie Coop.	MATT.HJ@COMCAST.NET
12.	Curtiva Moreland-Young	JSU	Curtiva.Moreland-Young@jsums.edu
13.			
14.			

NEM Update presentation to TAC and CAC on November 17 and 18, 2010





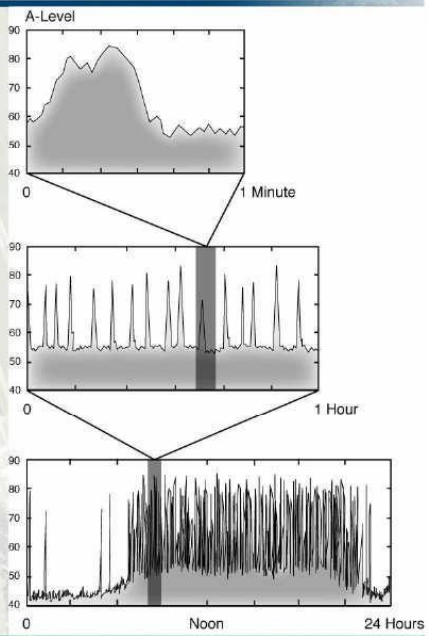

JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
What are NEMs?
NEMs describe:
Airport configuration and operation
Aircraft-related noise exposure
Land uses in the airport environs
Noise/land use compatibility situation
NEMs must provide information for two timeframes
Year of submission (2010)
Five-year forecast (2015)
RS&H Team
Airport Master Plan
5


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
What are NEMs?
NEMs depict annual aircraft noise exposure using "contours"
NEMs are open for public review and comment prior to submittal to FAA
NEMs are submitted to FAA for review and determination of compliance with 14 CFR Part 150 requirements
RS&H Team
Airport Master Plan
6

JACKSON MUNICIPAL AIRPORT AUTHORITY

Noise Exposure Maps
Introduction to Airport Noise Terminology

- Noise – "unwanted sound"
- The Decibel, dB
- A-Weighted Decibel
- Maximum A-Weighted Sound Level, Lmax
- Sound Exposure Level, SEL
- Day-Night Average Sound Level, DNL



RS&H Team

Airport Master Plan 7

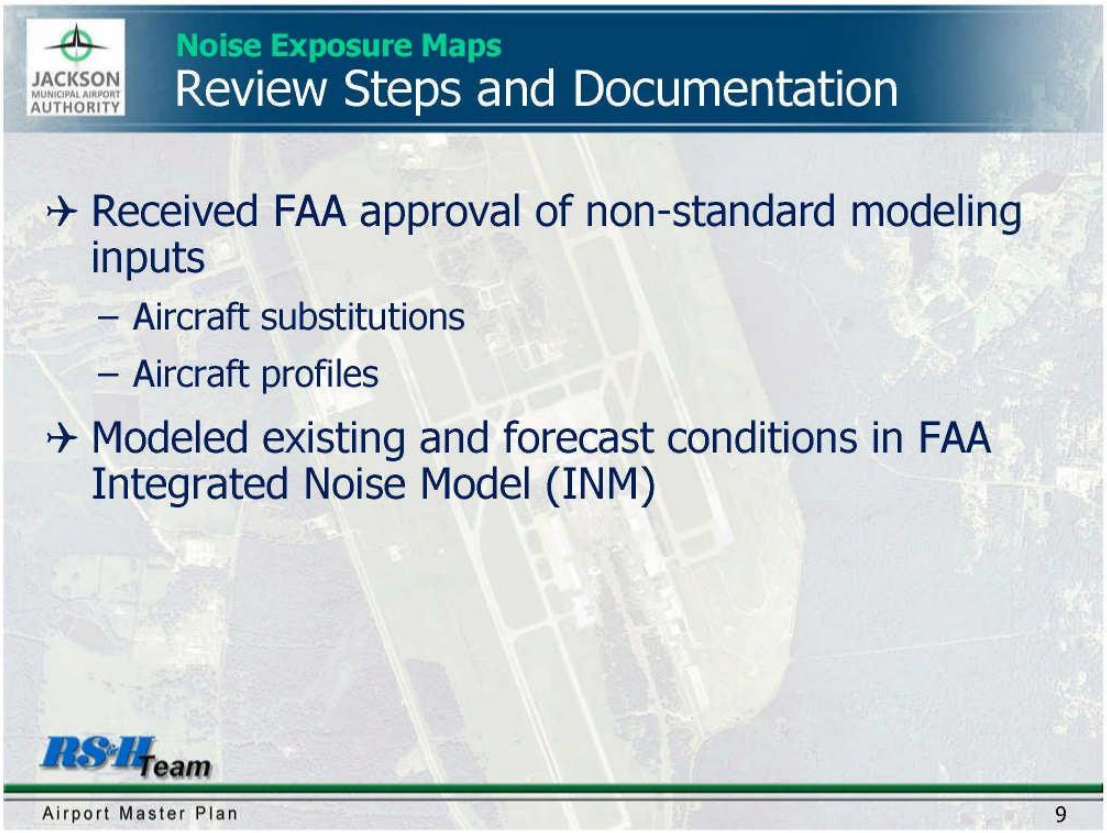
JACKSON MUNICIPAL AIRPORT AUTHORITY

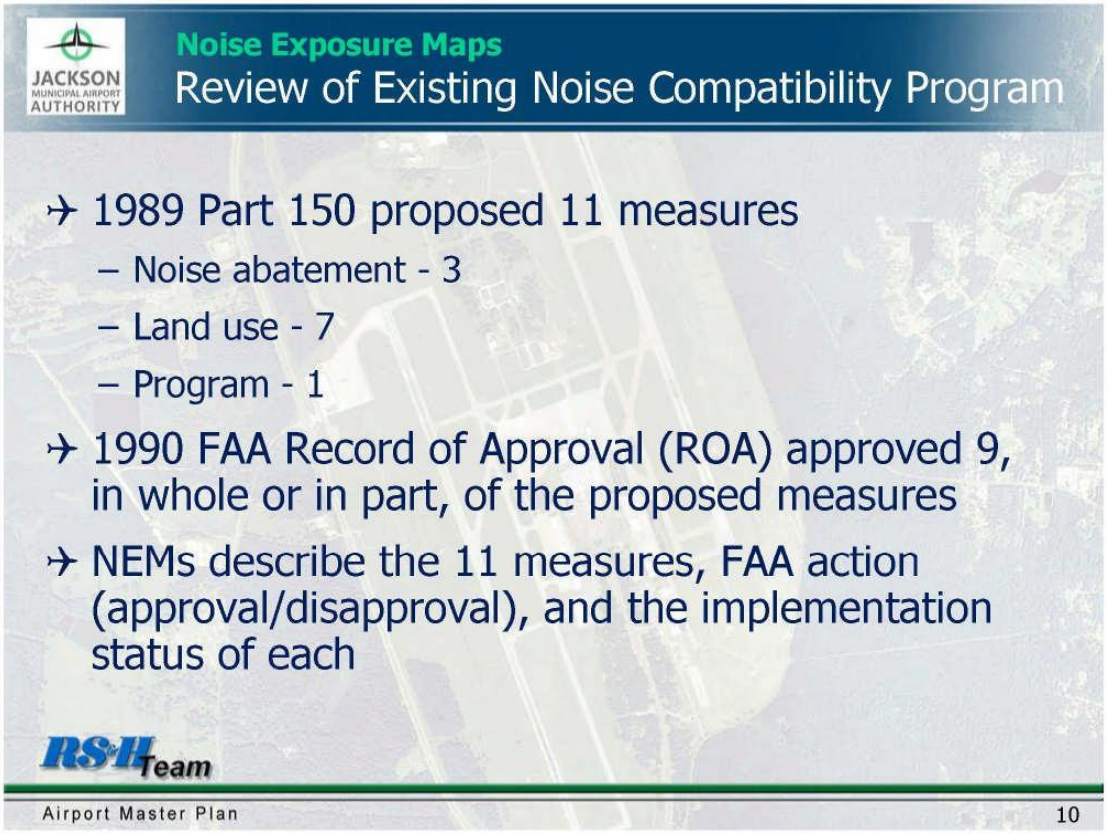
Noise Exposure Maps
Review Steps and Documentation

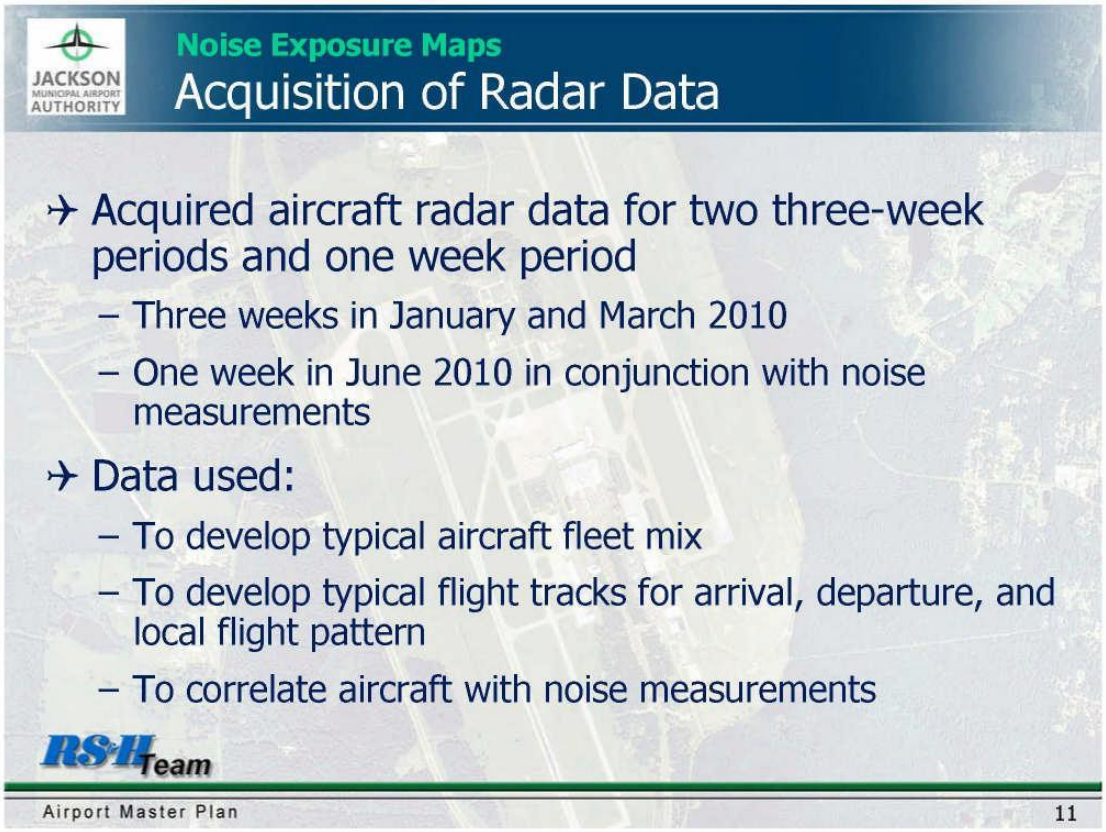
- Reviewed existing Noise Compatibility Program
- Acquired radar data for two three-week time periods in 2010
- Developed aircraft operations forecast in conjunction with Master Plan
- Conducted noise measurements in community for one-week period

RS&H Team

Airport Master Plan 8


JACKSON MUNICIPAL AIRPORT AUTHORITY
Noise Exposure Maps
Review Steps and Documentation
Received FAA approval of non-standard modeling inputs
Aircraft substitutions
Aircraft profiles
Modeled existing and forecast conditions in FAA Integrated Noise Model (INM)
RS&H Team
Airport Master Plan
9


JACKSON MUNICIPAL AIRPORT AUTHORITY
Noise Exposure Maps
Review of Existing Noise Compatibility Program
1989 Part 150 proposed 11 measures
Noise abatement - 3
Land use - 7
Program - 1
1990 FAA Record of Approval (ROA) approved 9, in whole or in part, of the proposed measures
NEMs describe the 11 measures, FAA action (approval/disapproval), and the implementation status of each
RS&H Team
Airport Master Plan
10


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
Acquisition of Radar Data
Acquired aircraft radar data for two three-week periods and one week period
– Three weeks in January and March 2010
– One week in June 2010 in conjunction with noise measurements
Data used:
– To develop typical aircraft fleet mix
– To develop typical flight tracks for arrival, departure, and local flight pattern
– To correlate aircraft with noise measurements
RS&H Team
Airport Master Plan
11


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
Aircraft Operations
Projected 67,296 aircraft operations for 2010
– Used actual operations reported by FAA tower counts from April 2009 through March 2010 as basis
2015 operations forecast based on Master Plan
– 71,172 aircraft operations
RS&H Team
Airport Master Plan
12

JACKSON MUNICIPAL AIRPORT AUTHORITY

Noise Exposure Maps
Noise Measurements

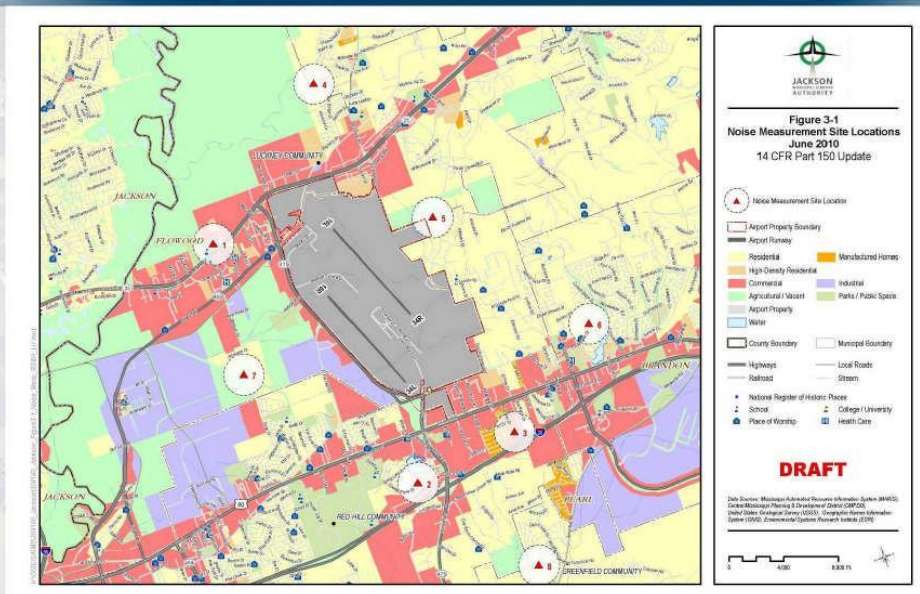
- Not required by FAA for development of NEMs
- Objectives
  - Characterize cumulative ambient and aircraft noise levels for use in land use planning
  - Obtain single-event aircraft and non-aircraft noise levels
  - Compare measured and modeled aircraft noise levels
- Noise measured during week in June 2010
- Eight different locations in the airport surrounding area

RS&H Team

Airport Master Plan 13

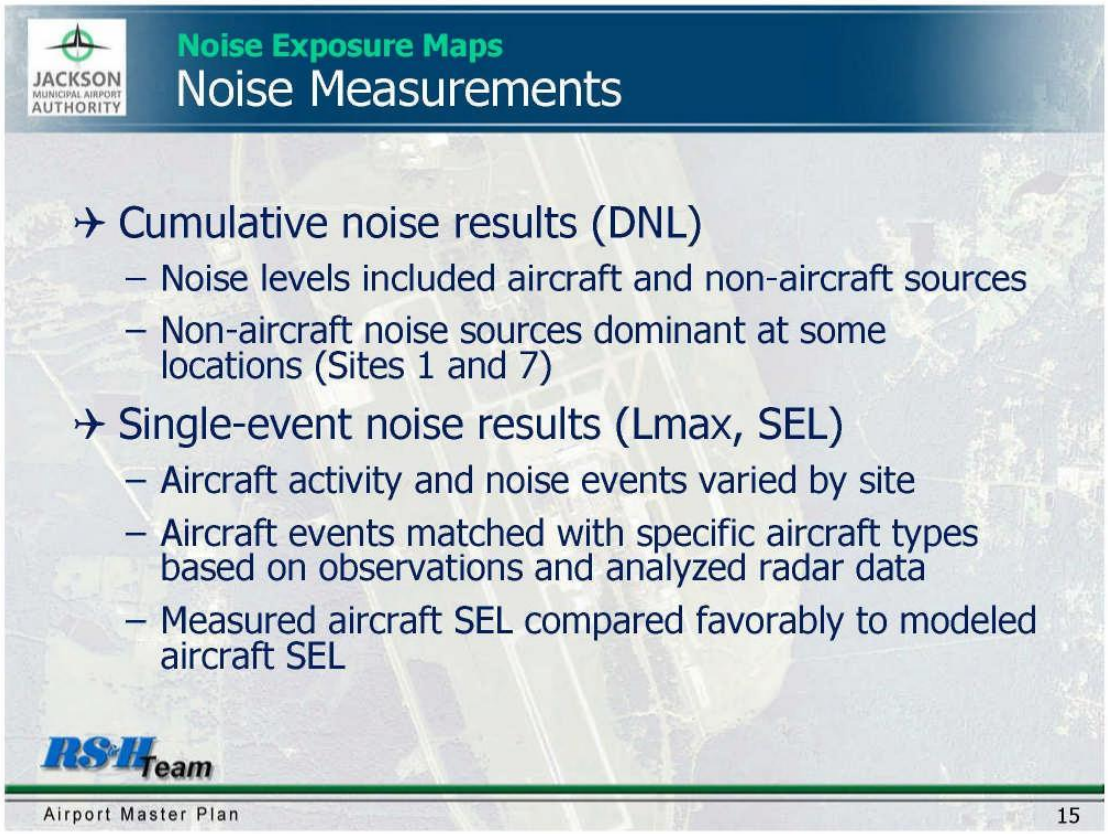
JACKSON MUNICIPAL AIRPORT AUTHORITY

Noise Exposure Maps
Noise Measurements

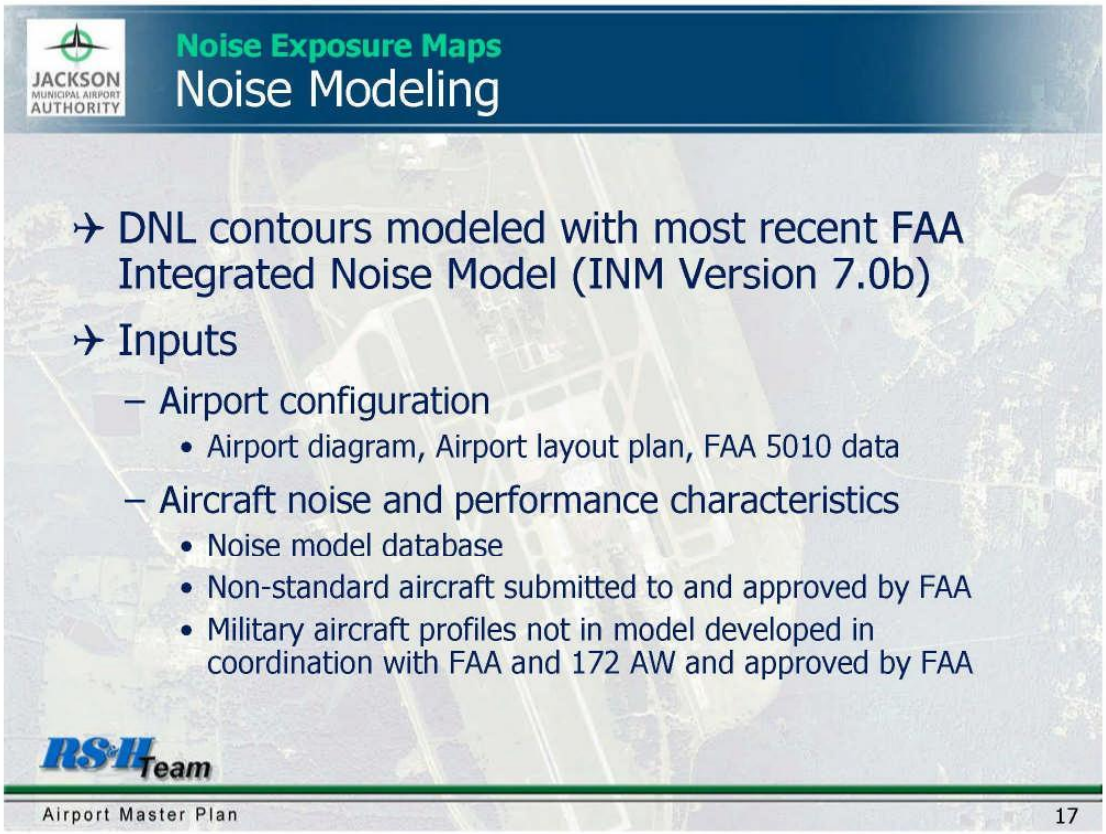


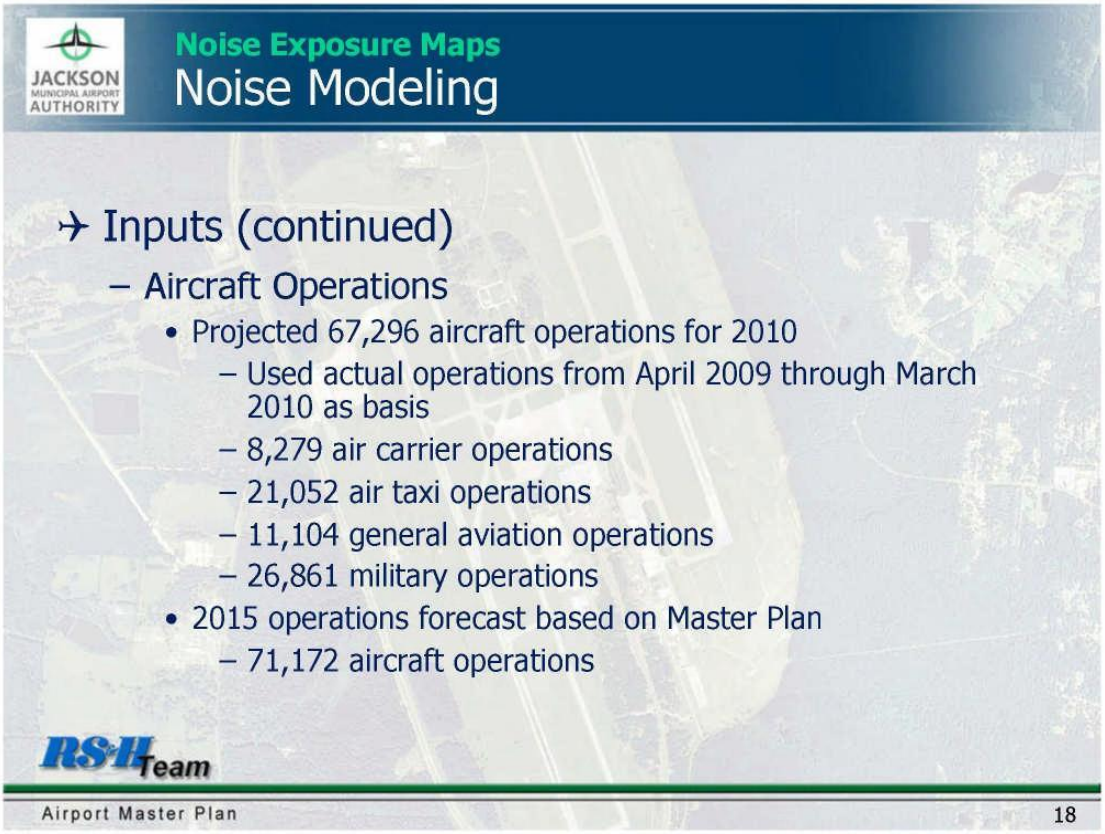
RS&H Team

Airport Master Plan 14


JACKSON MUNICIPAL AIRPORT AUTHORITY
Noise Exposure Maps
Noise Measurements
Cumulative noise results (DNL)
– Noise levels included aircraft and non-aircraft sources
– Non-aircraft noise sources dominant at some locations (Sites 1 and 7)
Single-event noise results (Lmax, SEL)
– Aircraft activity and noise events varied by site
– Aircraft events matched with specific aircraft types based on observations and analyzed radar data
– Measured aircraft SEL compared favorably to modeled aircraft SEL
RS&H Team
Airport Master Plan
15


JACKSON MUNICIPAL AIRPORT AUTHORITY
Noise Exposure Maps
Land Use Inventory
Land use mapping
– Central Mississippi Planning and Development District
– Validated through "windshield tour"
Part 150 focus is on "noise sensitive" land uses within 65+ DNL contour
– Residential
– Schools
– Places of worship
– Hospitals, nursing homes
Current and five-year forecast time frames
RS&H Team
Airport Master Plan
16


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
Noise Modeling
DNL contours modeled with most recent FAA Integrated Noise Model (INM Version 7.0b)
Inputs
Airport configuration
Airport diagram, Airport layout plan, FAA 5010 data
Aircraft noise and performance characteristics
Noise model database
Non-standard aircraft submitted to and approved by FAA
Military aircraft profiles not in model developed in coordination with FAA and 172 AW and approved by FAA
RS&H Team
Airport Master Plan
17


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
Noise Modeling
Inputs (continued)
Aircraft Operations
Projected 67,296 aircraft operations for 2010
Used actual operations from April 2009 through March 2010 as basis
8,279 air carrier operations
21,052 air taxi operations
11,104 general aviation operations
26,861 military operations
2015 operations forecast based on Master Plan
71,172 aircraft operations
RS&H Team
Airport Master Plan
18

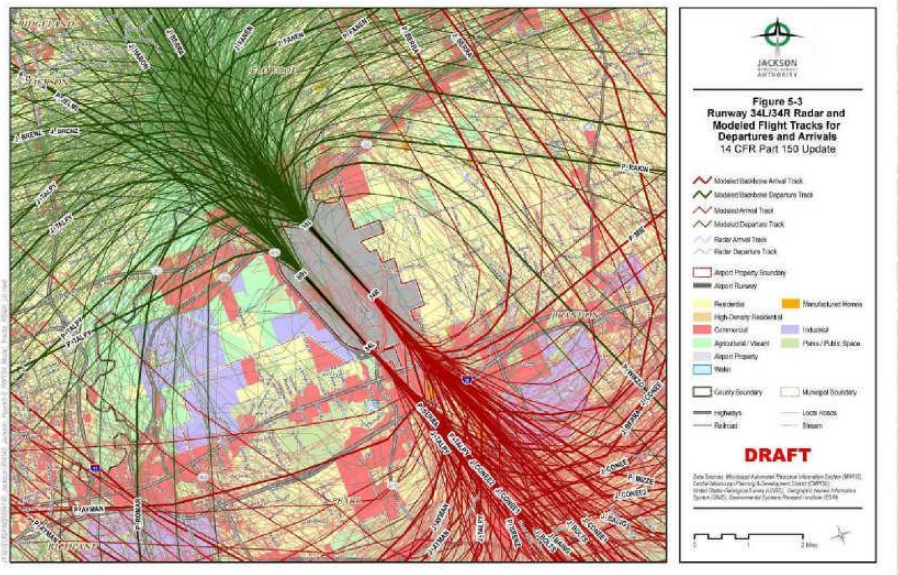
Noise Exposure Maps
Noise Modeling

- Inputs (continued)
  - Runway use
    - 56% south flow (Runways 16L/16R)
    - 44% north flow (Runways 34L/34R)
    - Based on discussions and six years of wind data
  - Flight track geometry and use
    - Radar data analysis

RS&H Team

Airport Master Plan 19

Noise Exposure Maps
Noise Modeling



RS&H Team

Airport Master Plan 20

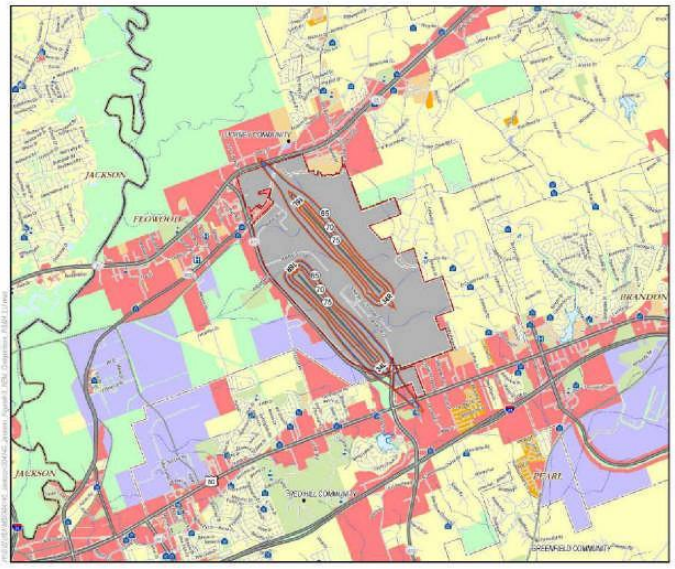
Noise Exposure Maps
Noise Modeling

- Inputs (continued)
  - Annual average meteorological conditions
    - Temperature, sea level pressure, and relative humidity
    - National Climatic Data Center data for years 2001 through 2009
  - Terrain
    - United States Geological Survey data
    - Used to properly reflect changes in terrain elevation

RS&H Team

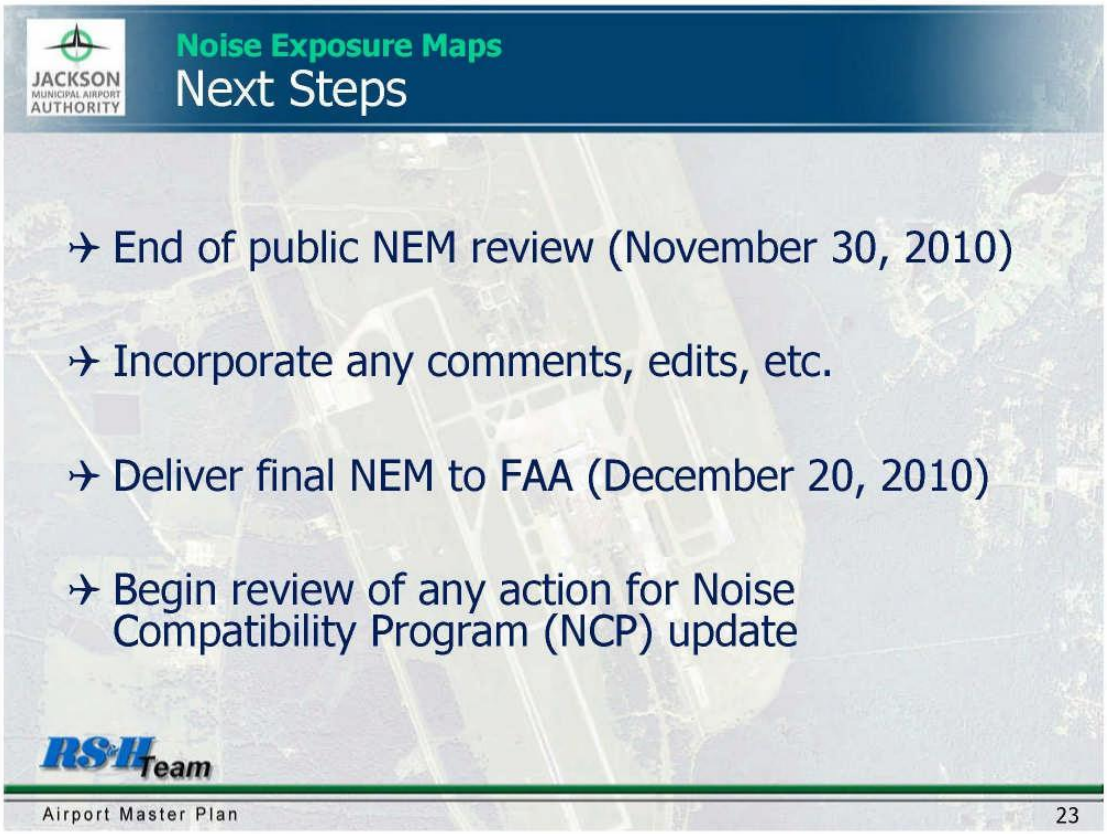
Airport Master Plan 21

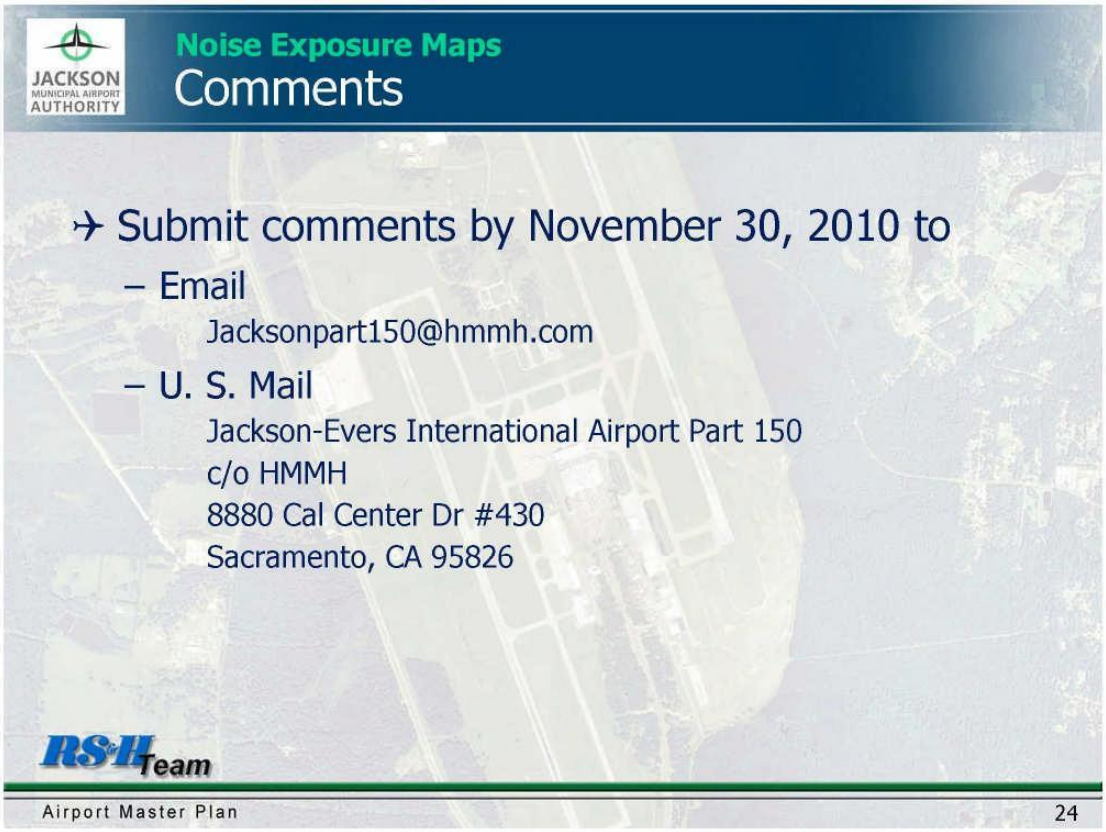
Noise Exposure Maps
Existing (2010) and Forecast (2015) NEMs



RS&H Team

Airport Master Plan 22


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
Next Steps
✈ End of public NEM review (November 30, 2010)
✈ Incorporate any comments, edits, etc.
✈ Deliver final NEM to FAA (December 20, 2010)
✈ Begin review of any action for Noise Compatibility Program (NCP) update
RS&H Team
Airport Master Plan
23


JACKSON
MUNICIPAL AIRPORT
AUTHORITY
Noise Exposure Maps
Comments
✈ Submit comments by November 30, 2010 to
– Email
Jacksonpart150@hmmh.com
– U. S. Mail
Jackson-Evers International Airport Part 150
c/o HMMH
8880 Cal Center Dr #430
Sacramento, CA 95826
RS&H Team
Airport Master Plan
24

Public workshop announcements/ads

November 10, 2010

Public workshop announcements/ads (cont)

November 12, 2010

NASCAR

Johnson-Hamlin pit road drama simmering

The Associated Press

CHARLOTTE, N.C. — The animosity on pit road began five weeks ago, when Jimmie Johnson's team broke an unwritten code by selecting the stall right in front of Denny Hamlin.

Championship contenders traditionally stay away from each other on pit road, and Hamlin crew chief Mike Ford was none too pleased by the lack of respect from Johnson crew chief Chad Knaus. Turnabout is fair play, though, and Ford repaid the slight last weekend at Texas Motor Speedway by selecting the pit stall in front of Johnson.

Then, when Johnson's pit crew struggled through some early stops that ultimately led to their benching, Ford couldn't help but wonder if the pressure of watching the flawless execution of Hamlin's crew a few feet away didn't play a part in their problems.

"You put the two pit crews toe-to-toe and those guys are going to make mistakes," Ford boasted after Hamlin's win Sunday at Texas pushed the No. 11 team past Johnson and into the points lead.

"We went beside them, and those guys faltered, and it made them panic and push to the point where they made changes."

Knaus benched his crew midway through Sunday's race after Hendrick Motorsports teammate Jeff Gordon crashed, and his crew became available for the rest of the day. The swap became official this week when HMS said Gordon's crew would pit Johnson for the final two races in the Chase for the Sprint Cup championship, in which Johnson trails Hamlin by 33 points.

So, did Hamlin and Ford and the FedEx team really get inside the heads of Johnson's crew to the point they couldn't perform at Texas? And, will mind games and mental warfare play a factor in deciding this championship?

Veteran driver Jeff Burton thinks the issue is black and white and a sports psychologist isn't needed to decipher the performance issues.

"I think a lot of people take a lot of credit for things that perhaps were just coincidence," Burton said. "But the 48 has not had typical 48 pit stops for a large part of the year. This wasn't the first race they've had a problem. If this was the first race they've had a problem then maybe (Ford) could make that case.

"But this isn't the first race they haven't been as good as you would expect them to be."

The fact is, of the three championship contenders, it's widely believed that Johnson's pit crew has been the weakest even though he's the four-time defending champion. Through attrition, promotion or being lured away by other teams, the core seven over-the-wall guys has changed from Johnson's first championship to the group that was benched Sunday.

Still, it took 34 races for Knaus to make a change, and when he did in the middle of the race, Ford viewed it as a "desperation move."

Knaus pleaded ignorance on the slight — "my plate's been pretty full," he said — but decided Ford's claim that his team is better than the four-time defending champion's.

"I don't know that they're a better team by any means," Knaus said. "It's funny that they're more worried about us than worried about themselves. I think I would be worried about focusing on that 11 car instead of the 48."

That line of thinking has helped Johnson to his four titles. Not since losing to Tony Stewart in 2006 has Johnson worried about the competition, focusing instead on what he and the No. 48 team have to achieve each week.

It's hard to tell if Hamlin's group is subscribing to that theory. While the words flying back and forth between each team would seem to indicate a level of gamesmanship not seen in NASCAR in over a decade, both teams denied being worried about the other.

Knaus dismissed Ford's notion that the crew swap was done because it's more important for Hendrick to win as a company than as an individual team.

"Obviously, that's not a very good team over there then. If we start to think about the individuals here, we don't operate as a team. Especially in this building, we're thick as thieves," Knaus said about the shop that both Johnson's and Gordon's teams work from.

Ford insisted his assessments aren't a bid to mess with the champions.

"Mind games only work if you let them," Ford said. "And if you get all caught up trying to mess with people you lose sight of what you are supposed to be doing."

With two races to go — including Phoenix, where Johnson has won four of the last six races — it's clear both teams are looking for every edge they can find.

X Games star Pastrana inks deal with Waltrip

PHOENIX — Travis Pastrana has signed a deal with Michael Waltrip Racing that could put him in NASCAR's second-tier Nationwide series as early as next year.

The action sports star has formed a team called Pastrana-Waltrip Racing, with Waltrip and Gary and Blake Bechtel. Pending NASCAR approval, he will run seven Nationwide races next season and 20 in 2012.

"I've been following NASCAR closely for years as a fan of the sport with competing in the sport a lifelong dream," Pastrana said in a statement released Thursday.

"I decided it was time to try and turn that dream into reality and with the help of the Bechtel family, Michael Waltrip Racing and Wasserman Media Group I'm now one step closer."

Pastrana is a star in Moto X, X Games and American rally racing. He's won 16 gold medals in the X Games, and has multiple supercross, motocross and rally championships in his career. He also has set motorcycle and automobile jump records.

Pastrana-Waltrip Racing will field Toyotas out of MWR's shop in North Carolina. The car's number has not been determined. Waltrip owns the No. 99, and Pastrana's longtime racing number is 199.

NASCAR has not yet approved Pastrana for competition.

This week's races

SPRINT CUP

Kobalt Tools 500

- **Site:** Avondale, Ariz.
- **When:** Sunday, 2 p.m., ESPN
- **Track:** Phoenix International Raceway (oval, 1 mile).
- **Race distance:** 312 miles, 312 laps.
- **Last year:** Jimmie Johnson closed in on his fourth straight series championship, winning the Phoenix fall race for the third straight year.
- **Last week:** Denny Hamlin took the points lead with two races left, holding off Matt Kenseth on the final restart at Texas. Hamlin has a series-high eight victories for Joe Gibbs Racing.
- **Fast facts:** Hamlin has a 33-point lead over Johnson and a 59-point advantage over third-place Kevin Harvick. Hamlin has five top-five finishes in 10 Phoenix starts. Johnson has four victories and nine top-five finishes in 14 starts at the track. ... Kyle Busch was fined $25,000 on Tuesday for making an obscene gesture at Texas. He also was placed on probation through Dec. 31. ... Ryan Newman won in April at the track.

NATIONWIDE

Wypall 200

- **Site:** Avondale, Ariz.
- **When:** Saturday, 3:30 p.m., ESPN2.
- **Track:** Phoenix International Raceway (oval, 1 mile).
- **Race distance:** 200 miles, 200 laps.
- **Last year:** Carl Edwards raced to the last of his five 2009 series victories, easily holding off Kevin Harvick in a dominating run.
- **Last week:** Brad Keselowski wrapped up the season title by finishing third in Texas, giving owner Roger Penske his first championship in one of NASCAR's national series. Edwards won the race.

CAMPING WORLD TRUCKS

Lucas Oil 150

- **Site:** Avondale, Ariz.
- **Schedule:** Today, 7 p.m., Speed.
- **Track:** Phoenix International Raceway (oval, 1 mile).

PUBLIC MEETING

Jackson Municipal Airport Authority

Thursday, Nov. 18
4 - 7 p.m.
Mississippi Agriculture and Forestry Museum
1150 Lakeland Drive
Jackson, MS

The Jackson Municipal Airport Authority (JMAA) invites you to an open forum public meeting to learn about and make comments concerning development along the East Nebo Corridor, a Master Plan Study, and 14 CFR Part 150 Noise Study for the Jackson-Evers International Airport.

No formal presentation will be made. Instead, the public is invited to review maps and other displays and to ask questions concerning this planning effort. Draft Noise Exposure Maps will be available for review at the meeting, on the JMAA.com website, and at the following locations until November 30, 2010:

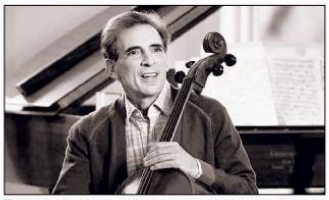
- Jackson-Evers International Airport, 100 International Drive, Suite 300
- Eudora Welty Library, 300 North State Street, Jackson
- Brandon Public Library, 1475 W. Government Street, Brandon
- Reservoir Public Library, 2230 Spillway Road, Brandon

Local musician Sherman Lee Dillon will perform and a southern style dinner will be provided. Any individual needing auxiliary aids or special accommodations to attend the meeting should contact Donna Lum at (601) 945.3071 or by e-mail at donna.lum@reed-schaffer.com no later than Friday, November 12.

PAID ADVERTISEMENT

New Joint Pill from Europe Rescues Musician's Career

Patented 100% natural joint formula is now backed by 4 clinical studies by top Scandinavian doctors and provides rapid relief to 4 out of 5 people.†*



■ **THRILLED HE CAN PLAY AGAIN:** Professional Cellist, Robert D. said, "It's given me a new lease on my musical career." Robert has been taking i-flex® for 6 months to ease his joint discomfort with fantastic results.

"All I can say is that I'm shocked with the results." 63-years young, Robert admitted about the brand new product that helped revive his music career.

Before using the all-natural joint enhancement product, i-flex®, Robert had trouble hitting the rapid note changes required as a professional musician with a nationally renowned Symphony Orchestra. His once stiff and sluggish fingers and elbows just couldn't manage. Now? They're agile and nimble, allowing Robert to hit the changes ache-free, without skipping a beat.

Robert isn't the only one. Countless more just like him are feeling the significant joint soothing effects of i-flex, a new 100% natural joint pill just released to the public by DSM Nutritional Products, a leading global life sciences company.

A recent clinical study revealed that 82% of people felt a reduction in discomfort in only three weeks. And the *longer term* effect is also impressive. A subset analysis of another study concluded that 88% of participants had less joint discomfort, even after 3 months.†††

i-flex, a product of Denmark, is the only product of its kind in the U.S. to come from 100% natural rosehips—the dried and milled fruit of the rose plant. These specialized rosehips are patented in the U.S. and countries worldwide for their unique effect on joint health (patents #602-9960, #70841221).

For the thousands of people looking to fill the void of ineffective products and synthetic pills, i-flex couldn't come at a better time—i-flex works better and faster. Take the popular ingredients glucosamine and chondroitin, for example:*

"I tried all the glucosamine and chondroitin products before. They just didn't work for me," Tara, a mother of 2 and new i-flex devotee said. "Consider me converted."

New insights reveal that she may not be alone. 54% of people with joint issues have tried glucosamine-based supplements for relief, according to a recent poll. But the biggest government-run study on glucosamine and chondroitin failed to show pain relief for most people with symptomatic knee osteoarthritis when compared to placebo (sugar pill).

There's no mistaking the powerful joint soothing effect of i-flex. The new 4 'gold standard' clinical studies have even shown that the specialized rosehips in i-flex can help people perform everyday activities much easier.* "It's clear. People experience less morning discomfort, they sleep better and even experience a better mood.*

In this day and age of complicated, difficult-to-read labels, people are also happy that i-flex is not only clinically effective, it has a very direct, easy to read label with just one ingredient – specialized rosehips that are imported from Denmark.

Dr. Sven Wolfram, R&D Manager for i-flex based in Kaiseraugst, Switzerland, said "With i-flex, you won't have to decipher a complicated product label or wade through a 'laundry list' of ingredients to determine precisely what ingredient should be relieving your discomfort. i-flex is truly unlike any other joint product out there: simple, natural, yet highly effective."

While i-flex is brand new to the U.S., the formula has been used by thousands all over Europe with fantastic results in soothing sore joints. It's been one of the top selling joint health brands in a number of European markets for the past few years, achieving 12% to 15% share of the joint health market in countries like Switzerland and Austria.

The i-flex story began over 10 years ago, when a Danish farmer found that eating the special fruits of the rose plants on his farm helped ease his joint discomfort. Since then, this special ingredient has shown consistent positive results with 8 total published papers, and has helped countless people get right back to doing the daily activities they once enjoyed.

In addition to its clinically validated joint soothing properties, i-flex is also free of all "major 8" Allergens and is a green and sustainable ingredient—in this day and age, very important considerations for consumers.*

The Buzz Surrounding i-flex

"A Miracle in a capsule. This is an incredible product. It really works -- and quickly. Glucosamine/chondroitin - forget about it. Took it for months without relief from (the aches) and no restoration of flexibility. I am now 23 days into my second bottle and cannot begin to tell you how great both knees feel - no (discomfort) and approximately 90% flexibility!"
i-flex user from New York

"Works Quickly. I'm an electrician and have very bad joint (discomfort) in my hands and knees. I started taking i-flex and noticed within a week that my (discomfort) was reduced. I stopped taking for a while and the (aches) came back. I'm a believer in this product ... It works!"
i-flex user from New Jersey

"A true believer. I have been using i-flex for the past month. I have had absolutely no soreness in my joints. I am 61 years old and an active grandmother I can keep up with my two year old granddaughter with absolutely no problems. The constant up and down motion from chasing after a two year old hardly exists."
i-flex user from Florida

These testimonials received by www.iherb.com

HOW CAN YOU GET IT?

Demand is anticipated to be hot for this new joint pill. In a recent retail store trial, sales of i-flex® increased 30-fold after a commercial was seen on local TV. And a remarkable survey finding revealed that 90% of people would choose i-flex® over a glucosamine and chondroitin product, just based on a description of the product and even before trying it.‡

You can get i-flex® three ways. Call **1-800-816-8134 ext.313** and get **$3 OFF every bottle** if you call within the next 48 hours. Or go online to www.i-flextoday.com to order i-flex® direct from DSM Nutritional Products. These are the fastest ways to get your hands on the supplement that is literally redefining how people think about joint health.

If you prefer a local store, you can pick up i-flex today at **Walgreens, Rite Aid & Vitamin Shoppe.** Bring the $3 coupon below and call before visiting—they may be sold out already.

1-800-816-8134 ext.313 - www.i-flextoday.com - Walgreens, Rite Aid & Vitamin Shoppe

MANUFACTURERS COUPON EXPIRES 1/31/11 DO NOT DOUBLE

SAVE $3.00

on one 120-count of i-flex

Limit one coupon per purchase

Public workshop announcements/ads (cont)

November 14, 2010

Lawsuit: District said to be acting in bad faith

From 1B

Sheppard, 17 was kicked off the team when he donned the brightly colored shoes, a gift from his 82-year-old great-grandmother, in an Oct. 8 game. He wore the cleats to honor two family members, both cancer survivors.

Attorneys for Sheppard and the district disagreed on why the boy was kicked off the team. Deputy Superintendent Tom Duncan has said Sheppard was booted for ignoring orders from his coach and assistant coaches to take off the cleats and that the matter is not about a lack of support for breast cancer awareness.

Coach Chris Peterson reportedly had hugged Sheppard and welcomed him back to the team after the agreement was reached.

Friday's game against Purvis in the second round of the state high school playoffs would have been the first game in a month in which Sheppard was able to take the field after his attorney resolved the issue with the school district. Sheppard had planned to play in his regular cleats.

Diaz told *The Clarion-Ledger* on Friday that Sheppard was "happy that his wearing the cleats has been able to raise the awareness of the breast cancer campaign, even beyond what he thought he was going to be able to do."

"The more I hear about it, the more I want to help," Sheppard told *The Clarion-Ledger* in a Thursday interview. "If I could, I'd probably wear an all-pink uniform."

Now, any damages awarded will go to the American Cancer Society and Susan G. Komen for the Cure as originally planned, Diaz said.

Sheppard's mother was hospitalized Friday night because of what happened at the game, Diaz said. Her blood pressure "got out of control," and she had an irregular heartbeat, Diaz said. As of Saturday night, Sheppard's mother was still hospitalized, he said.

"This whole situation didn't have to happen," Diaz said. He compared the situation to when Constance McMillen reached an agreement with the Itawamba County School District that would allow her to attend prom with a same-sex date, only to find the prom had been moved without her knowledge. McMillen eventually was awarded $35,000 in damages and $81,000 in legal feels in a settlement with the district.

The Simpson County situation is "another example of a school district in Mississippi acting in bad faith even after they've entered into a voluntary settlement," Diaz said.

■

To comment on this story, call Justin Fritscher at (601) 961-7266 or Marquita Brown at (601) 961-7059.

Military seeks employer nominations

From staff reports

Employer Support of the Guard and Reserve, a Department of Defense agency, has announced the opening of nominations for the 2011 Secretary of Defense Employer Support Freedom Award.

Guard and Reserve service members and their families are encouraged to nominate employers who have provided exceptional support of military employees beyond federal law requirements.

Nominations are being accepted at FreedomAward.mil through Jan. 17. The 2011 recipients will be announced in the spring and honored at a Washington, D.C., ceremony on Sept. 22.

For questions regarding the nomination process, visit FreedomAward.mil or call Beth Sherman at (703) 696-1171, Ext. 539, or e-mail ESGR-PA@osd.mil.

Public workshop announcements/ads (cont)

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HINDS COUNTY

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NEEL-SCHAFFER- LEGALS,
0200329485
JMAA Noise Study Meeting

LEGAL NOTICE FOR OPEN FORUM PUBLIC MEETING JACKSON MUNICIPAL AIRPORT AUTHORITY MASTER PLAN STUDY AND 14 CFR PART 150 NOISE STUDY JACKSON-EVERS INTERNATIONAL AIRPORT

The Jackson Municipal Airport Authority (JMAA) has scheduled an open forum public meeting to learn about and make comments concerning development along the East Metro Corridor, the Master Plan Study, and the 14 CFR Part 150 Noise Study for the Jackson-Evers International Airport. The meeting will be held Thursday, November 18, 2010 from 4:00 to 7:00 p.m. at the Mississippi Agriculture and Forestry Museum, 1150 Lakeland Drive, Jackson, MS.

Citizens are invited to come and go as they please during the hours of the meeting and view the draft "Noise Exposure Maps," which provide a detailed description of the airport, noise exposure associated with aircraft operations, surrounding land uses, and compatibility conditions. The noise study, referred to as a "Part 150" study after the section of the Federal Code under which it is authorized, will consider the current situation in 2010 and the forecast conditions in 2015. Although there will be no provisions made for formal presentations by individuals or groups, citizens are encouraged to make written and/or verbal comments that will become part of the meeting's permanent record.

The draft "Noise Exposure Maps" are available for public inspection at the Jackson-Evers International Airport, 100 International Drive, Suite 300, Jackson; the Eudora Welty Library, 300 N. State Street, Jackson; the Brandon Public Library, 1475 W. Government Street, Brandon; and the Reservoir Public Library, 2230 Spillway Road, Brandon. The period of review on the Noise Exposure Maps will end at 5:00 p.m. Tuesday, November 30, 2010.

Any individual who needs auxiliary aids or special accommodations to attend the hearing should call Donna Lum at 601-948-3071 or by email at donna.lum@neel-

PERSONALLY appeared before me, the undersigned notary public in and for Hinds County, Mississippi,

GLORIA WEAKLEY

an authorized clerk of THE CLARION-LEDGER, a newspaper as defined and prescribed in Sections 13-3-31 and 13-3-32, of the Mississippi Code of 1972, as amended, who, being duly sworn, states that the notice, a true copy of which is hereto attached, appeared in the issues of said newspaper as follows:

10/31/2010
11/15/2010

Size: 371 words / 2.00 col. x 49.00 lines
Published: 2 time(s)
Total: $93.62

Signed _____
Authorized Clerk of
The Clarion-Ledger

SWORN to and subscribed before me on 11/15/2010.

_____
Notary Public
RICK TYLER

Notary Public State of Mississippi at Large. Bonded thru Notary Public Underwriters

(SEAL)

STATE OF MISSISSIPPI
RICK TYLER
NOTARY PUBLIC
ID# 99075
Commission Expires
June 29, 2012
RANKIN COUNTY

Email to local officials and interested parties regarding public workshop

From: Donna Lum [mailto:donna.lum@neel-schaffer.com] **On Behalf Of** 'Bonnie Wilson'
Sent: Monday, November 01, 2010 5:07 PM
To: ahughes@ms.fhwa.dot.gov; bditto@pearl.k12.ms.us; benjieb@selecthinds.com; blake@selecthinds.com; bobwilson@msmainstreet.com; bomgardnera@vanguardcar.com; breynolds@cmpdd.org; brogers@cityofpearl.com; Bryan.Street@delta.com; bryce.c.wert@erac.com; bwilson@mec.ms; carol.jones@rcsd.ms; carol@medc.ms; cgipson@hinds.k12.ms.us; charles.ingram@faa.gov; chewjs@bellsouth.net; cholmes@cmpdd.org; christine.m.nielsen@jsums.edu; Clarence.Edwards@atlanticaviation.com; curtina.moreland-young@jsums.edu; dan.wesson@faa.gov; david.wynn@dhs.gov; deaton@cmpdd.org; dhall@mdot.state.ms.us; dkimbrough@madison-schools.com; dsurrette@massup.org; eainsworth@city.jackson.ms.us; eduns3@aol.com; edward.evans@ang.af.mil; george1@mmlonline.com; globalstrat2@aol.com; grhoades@ci.flowood.ms.us; gswoope@mississippi.org; James.Burleigh@faa.gov; jeff.orr@faa.gov; jmoon@mma-web.org; jonathan.lee@msprodinc.com; kriley@governor.state.ms.us; lbrown@mdot.state.ms.us; ljones@city.jackson.ms.us; lsmith@cmpdd.org; mail@ecpdd.org; matt.h3@comcast.net; nol1jrm@ups.com; Oscar.Branch@hindscc.edu; quinton.l.williams@jsums.edu; Rans.Black@faa.gov; ray.grubbs@millsaps.edu; richard.nesbitt@faa.gov; ruben.benitez@dhs.gov; suzetteholden@yahoo.com; tbooth@mdot.state.us.ms; tcoulter@ci.brandon.ms.us; tim@madisoncountyeda.com; ttroxler@rankinfirst.com; william.hill.1@ang.af.mil; wwalters@jackson.k12.ms.us
Cc: 'Chuck Lott'; 'Rebecca Boone'; 'Bonnie Wilson'; donna.lum@neel-schaffer.com
Subject: JMAA invites you to participate in planning activities and dinner at the MS Agriculture and Forestry Museum Thursday, Nov. 18

PUBLIC MEETING
Thursday, November 18, 2010
4:00 p.m. – 7:00 p.m.
Agriculture and Forestry Museum
1150 Lakeland Drive
Jackson, MS

You are invited to join the Jackson Municipal Airport Authority (JMAA) for music, catfish, ribs, chicken, and good conversation concerning future plans for the Jackson-Evers International Airport.

This meeting, which will be held in the Masonic Lodge of the Mississippi Agriculture and Forestry Museum, will provide an opportunity to learn about and make comments concerning development along the East Metro Corridor, a Master Plan Study, and a 14 CFR Part 150 Noise Study for the Jackson-Evers International Airport.

No formal presentation will be made. Instead, the public is encouraged to meet and visit with representatives of the Airport Authority, review maps and other displays, and ask questions concerning this planning effort.

Draft Noise Maps will be available for review at the meeting, as well as on the JMAA website http://jmaa.com/ (click Documents Download Menu) and at the following locations until November 30, 2010:

- Jackson-Evers International Airport, 100 International Drive, Suite 300, Jackson
- Eudora Welty Library, 300 North State Street, Jackson
- Brandon Public Library, 1475 W. Government Street, Brandon
- Reservoir Public Library, 2230 Spillway Road, Brandon

Local musician Sherman Lee Dillon will perform and family members are welcome.

Any individual needing auxiliary aids or special accommodations to attend the meeting should contact Donna Lum at 601.948.3071 or by email at donna.lum@neel-schaffer.com no later than Friday, November 12.

Bonnie A. Wilson
Chief Operating Officer
Jackson Municipal Airport Authority

Public Meeting/Workshop Sign-in Sheets

Jackson Municipal Airport Authority

JACKSON MUNICIPAL AIRPORT AUTHORITY – PUBLIC MEETING

Mississippi Agriculture and Forestry Museum
Masonic Lodge
1150 Lakeland Drive, Jackson, Miss.
November 18, 2010

Sign In

Name	Address	E-mail	Phone Number	How did you hear about this meeting?
Ryan Brown	Byram, Ms	RyansBrown32@gmail.com	769-234-2590	☐ email ☑ word of mouth ☐ newspaper other ____
Will Balentine				☐ email ☐ word of mouth ☐ newspaper other ____
Bryce West	Gulfport, MS	bryce.c.west@erdc.com		☑ email ☐ word of mouth ☐ newspaper other ____
DONOVAN CUFFIE	JACKSON, MS	DONOVAN.M.CUFFIE@ERDC.COM		☑ email ☐ word of mouth ☐ newspaper other ____
Andrew Bomgardner	Jackson, Ms			☐ email ☐ word of mouth ☐ newspaper other ____
Carolyn Sexton	Richland, MS		601 939-2385	☑ email ☑ word of mouth ☑ newspaper other ____
DICK HALL	BRANDON		601-359-7035	☑ email ☐ word of mouth ☐ newspaper other ____
Larry Mobley	Brandon	larrymobley@rankinfirst.com	601-8252268	☐ email ☐ word of mouth ☐ newspaper other ____
SAM Magee	BRANDON		601-260-1743	☐ email ☐ word of mouth ☑ newspaper other ____
Jim White	Jackson	jim.white@wsppanama.com	601 914 6330	☑ email ☐ word of mouth ☐ newspaper other ____
Jeff Orr	Jackson	jeff.orr@faa.gov	601-664-7885	☐ email ☐ word of mouth ☐ newspaper other ____
CHUCK LOTT	JACKSON		601-948-3071	☐ email ☑ word of mouth ☐ newspaper other ____

MASTER PLAN STUDY – NOISE STUDY – EAST METRO CORRIDOR

Public Meeting/Workshop Sign-in Sheets (cont)

Jackson Municipal Airport Authority

JACKSON MUNICIPAL AIRPORT AUTHORITY – PUBLIC MEETING

Mississippi Agriculture and Forestry Museum
Masonic Lodge
1150 Lakeland Drive, Jackson, Miss.
November 18, 2010

Sign In

Name	Address	E-mail	Phone Number	How did you hear about this meeting?
Rebecca Boone	6016 Clubhouse Dr Pearl	rebecca.boone@neel-schaffer.com		email, word of mouth, X newspaper, other
L C Helms	Brandon			email, word of mouth, X newspaper, other
Gillie Helms	Brandon			X email, word of mouth, newspaper, other
[illegible]	Brandon			email, word of mouth, X newspaper, other
Jerry B Willis	Midnight MS			email, word of mouth, X newspaper, other
Bill Hughes	Pelahatchie, MS			email, word of mouth, X newspaper, other
Randy Pearcy Hinds CC	109 Ridgecrest Ridgeland	rapearcy@hindscc.edu	601-857-3300	email, word of mouth, newspaper, other
Gayle Meeks	303 Lakeside Dr. Brandon	gaylemeeks@yahoo.com	601-209-5465	email, word of mouth, newspaper, other
Oscar Branch	123 Blakebridge Brandon		601 936-5575	email, word of mouth, newspaper, other
Tommy Booth	MDOT - Aeronautics	tbooth@mdot.state.ms.us	601-359-7850	email, word of mouth, newspaper, other
Jim Hust	Madison MS	jim.hust@waggonereng.com	601-355-9526	email, word of mouth, X newspaper, other
[illegible]	Brandon			email, word of mouth, newspaper, other

MASTER PLAN STUDY – NOISE STUDY – EAST METRO CORRIDOR

Public Meeting/Workshop Sign-in Sheets (cont)

Jackson Municipal Airport Authority

JACKSON MUNICIPAL AIRPORT AUTHORITY – PUBLIC MEETING

Mississippi Agriculture and Forestry Museum
Masonic Lodge
1150 Lakeland Drive, Jackson, Miss.
November 18, 2010

Sign In

Name	Address	E-mail	Phone Number	How did you hear about this meeting?
Jahya Dakhs	Brandon	fdakhs@ci.brandon.ms.us	601. 824. 4578	__email __word of mouth __newspaper other X
Felix Flowood	Flowood			__email __word of mouth __newspaper other
Ignacio Zaldivar	Flowood			__email __word of mouth __newspaper other
Stan Wright	Madison	stan.wright@waggonereng.com		__email __word of mouth __newspaper other
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MASTER PLAN STUDY - NOISE STUDY - EAST METRO CORRIDOR

Public workshop handout 1

14 CFR Part 150 Study Update

Frequently Asked Questions

JACKSON
MUNICIPAL AIRPORT
AUTHORITY

What Is a Part 150 Study?

A "14 CFR Part 150 Study" is an in-depth noise and land use compatibility study authorized by Part 150 of the Code of Federal Regulations that involves working with the community to address its concerns, developing a detailed analysis of aviation-related noise levels and the variables that affect them, and creating a plan that, when implemented, improves the airport's compatibility with its neighbors. It is called a 14 CFR Part 150 Study because it is conducted in accordance with procedures specified in Title 14 of the Code of Federal Regulations Part 150.

With funding help from the Federal Aviation Administration (FAA), a consulting team led by Reynolds, Smith, and Hills, Inc (RS&H) is conducting the Part 150 Study (also called an Airport Noise Compatibility Study). The project will take about 24-months and will result in a detailed report prepared for the Jackson Municipal Airport Authority and submitted to the FAA for approval of the measures being recommended for inclusion in the airport's update to its Federal Noise Compatibility Program (NCP).

Why is this study called a Part 150 Study Update?

14 CFR Part 150, titled "Airport Noise Compatibility Planning," is a Federal Aviation Administration (FAA) voluntary program in which Jackson-Evers International Airport (JAN) has participated in the past, completing an original Part 150 Study in 1990. An update of the Noise Exposure Maps was completed in 2004. However, over time, airport operations change, technology changes, and land use patterns can change. The current Study Update will update the 1990 study and 2004 Noise Exposure Map based upon current conditions and forecast aircraft operational activity at the airport.

What does a Part 150 Study include?

There are two principal technical elements to a Part 150 Study: the Noise Exposure Maps (NEMs) and the Noise Compatibility Program (NCP).

The NEMs include aircraft noise exposure contours created using FAA's Integrated Noise Model (INM). The noise contours are overlaid on a map that depicts the airport's layout and operation, the community's land uses surrounding the airport, and the aircraft-related noise exposure reflecting operations occurring during the year of submission (2010) and noise anticipated to occur in a forecast year five years in the future (2015) as mandated by FAA.

Public workshop handout 1 (cont)

The NCP includes proposed actions to minimize existing and future noise/land use incompatibilities. These actions may include noise abatement measures, noise mitigation or compensation measures, and/or preventative measures. The NCP will include a description of all measures that are considered (existing, updated, and/or new), an analysis of the noise compatibility effectiveness of each measure, and a description of possible methods of implementing and funding the measures.

How Does the Community Get Involved?

To ensure that the Airport Noise Compatibility Study addresses as broad a base of concerns as possible from both aviation and community interests, a Community Advisory Committee has been formed in conjunction with a concurrent Airport Master Plan Update. In addition, two public workshops will be held to educate, inform and solicit input from the airport community. Also, information and documentation is available at the airport website: http://www.jmaa.com.

Is the Part 150 Process Unique to Jackson-Evers International Airport?

Some 250 airports have conducted Part 150 Studies to work with communities on managing aircraft noise impact. While many of the elements of a Part 150 Study are the same, every airport and every community is distinctive and has different issues. As a result, the needs, the process and the outcomes of the Part 150 Study are unique to each airport region.

For more information regarding 14 CFR Part 150, see the FAA link at:
http://www.faa.gov/airports/environmental/airport_noise/

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Public workshop handout 2

Jackson-Evers International Airport
14 CFR Part 150 Noise Exposure Map Update
Executive Summary

Part 150 of Title 14 Code of Federal Regulations (CFR) "Airport Noise Compatibility Planning" sets forth standards for airport operators to use in documenting noise exposure in the airport environs and establishing programs to minimize noise-related incompatibilities. The Jackson Municipal Airport Authority has recently completed its update of the Noise Exposure Map (NEM) for the Jackson-Evers International Airport (JAN). The NEM describes the airport layout and operation, aircraft-related noise exposure, land uses in the airport environs, and the resulting noise/land use compatibility situation. The NEM must address two time frames: (1) the year of submission (the "existing conditions") and (2) the fifth calendar year following the year of submission (the "forecast conditions"). This NEM presents noise exposure for 2010 (existing) and 2015 (forecast) conditions. The Jackson Municipal Airport Authority has prepared this Executive Summary to provide an overview of the 14 CFR Part 150 Study for Jackson-Evers International Airport. A more detailed discussion of the study is available in the document *Jackson-Evers International Airport, 14 CFR Part 150 Update, Noise Exposure Maps, December 2010.*

The Federal Aviation Administration (FAA) requires that the noise environment around an airport be described in terms of a measure of total exposure – an accumulation of the individual aircraft events that occur throughout an average day of airport activity. This measure is referred to as the Day- Night Average Sound Level or DNL. The DNL measures noise exposure resulting from multiple events occurring over a 24-hour period, except that noises occurring at night (defined as 10:00 p.m. to 7:00 a.m.) are artificially increased by 10 decibels (dB). This weighting is intended to reflect the added intrusiveness of nighttime noise events attributable to the fact that community background noise levels decrease at night.

DNL can be measured or predicted from computer models, such as the FAA's Integrated Noise Model (INM). Part 150 allows measurements as a means of getting first-hand knowledge of noise sources in noise-sensitive areas around an airport, and helping to understand the local noise environment, but FAA requires that the INM be used on Part 150 studies for the following reasons: (a) measurements are practical only for obtaining DNL values for a limited numbers of points, (b) in the absence of a permanently installed monitoring system, noise measurements only cover relatively short time periods, and (c) noise measurements are snapshots of existing conditions and cannot be used to predict or evaluate future conditions.

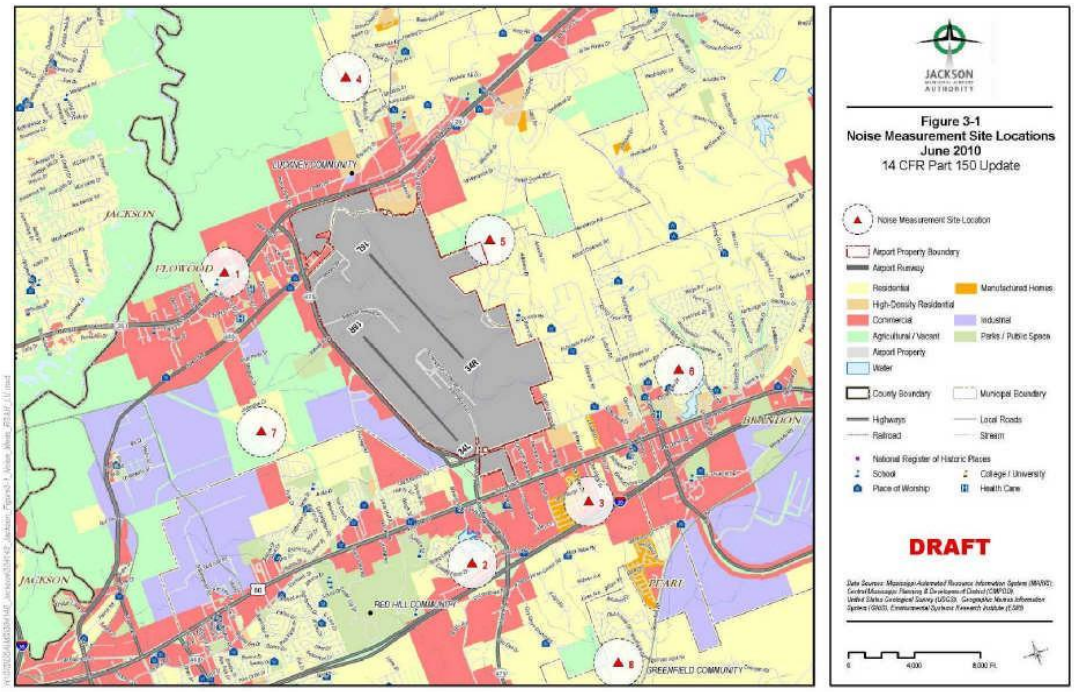
Thus, in addition to the modeling conducted as described below, a measurement program took place over a five-day period in June 2010. Multiple portable monitors were set up and run simultaneously, capturing the noise of individual aircraft and community noise sources as well as cumulative noise exposure levels. Data from eight locations were collected and are summarized in Chapter 3 of the document. The measured aircraft noise levels were comparable to those predicted by the noise model.

December 2010

Public workshop handout 2 (cont)

Jackson-Evers International Airport
14 CFR Part 150 Noise Exposure Map Update

Executive Summary
Page 2



Noise Measurement Locations 2010

December 2010

Public workshop handout 2 (cont)

As directed by the FAA, noise contours were prepared using INM version 7.0b. Inputs for the model were developed from actual FAA radar data collected and processed for two separate periods in 2010 and from FAA traffic counts for April 1, 2009 through March 31, 2010. The modeled noise exposure contours are based on the aircraft activity levels shown in the following table:

Annual Operational Levels

Aircraft Category	2010 (Existing)	2015 (Forecast)
Air Carrier	8,279	8,887
Commuter	21,052	25,272
General Aviation	11,104	12,549
Military	26,861	24,464
Total	*67,296*	*71,172*

Part 150 and its table of noise/land use compatibility guidelines require the calculation of "yearly DNL" values. That is, the daily noise exposure (in DNL) averaged over a year - usually a calendar year. The INM produces these values of exposure utilizing an "average annual day" of aircraft operations. Part 150 also requires that the 65 dB, 70 dB and 75 dB DNL contours be shown. The following figures are extracted from the Noise Exposure Map document and represent the Existing Conditions (2010) and Forecast Conditions (2015) Noise Exposure Maps for Jackson-Evers International Airport.

As shown in the two figures, the 65 dB DNL contours extend only a short distance off of airport property with no identified residential or noise sensitive parcels or properties included in the contours.

Additionally, the NEM document includes a discussion of the current Noise Compatibility Program (NCP) in place at the Airport. In general, the NCP describes the actions the airport proprietor proposes to undertake to minimize existing and future noise/land use incompatibilities. As part of its first Part 150 project, the Jackson Municipal Airport Authority submitted a Noise Compatibility Program consisting of 11 noise mitigation measures for review in 1989; the NCP was approved on May 17, 1990. This current NCP includes a mix of noise abatement, program management, and land use elements. As prescribed by the FAA, this NEM update recounts the development of the program, including a description of all the existing measures and the actions that have been taken to date to realize these measures.

This Part 150 Update was conducted in conjunction with a Master Plan update. Thus many of the assumptions and inputs to this study were also common to the Master Plan development. Public input is sought through the Master Plan Community Advisory Committee and a Public Workshop held to review the draft results of the study and to afford adequate opportunity for interested persons to submit any comments.

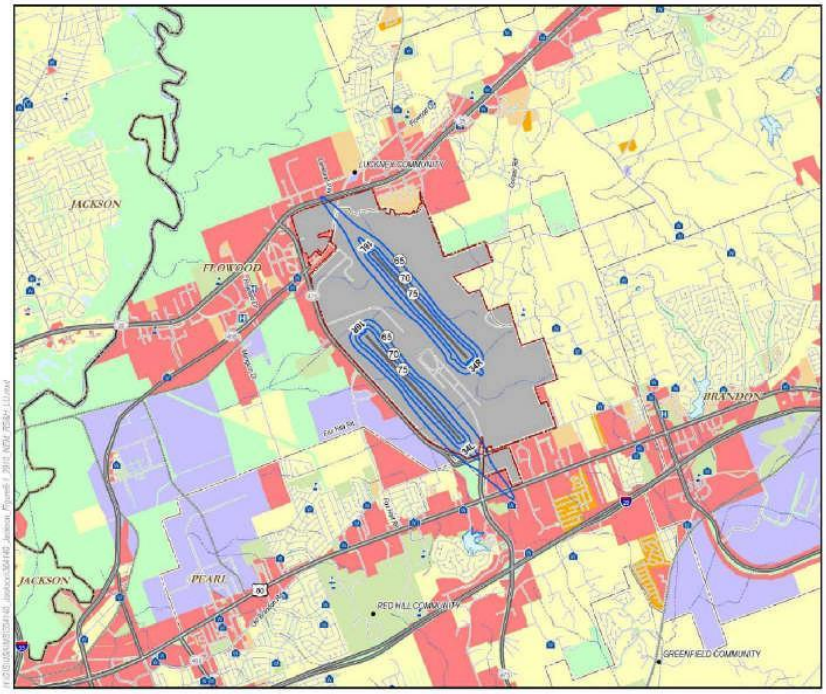
ADDITIONAL INFORMATION

For additional information, please contact:

Bonnie A. Wilson
Chief Operating Officer
Jackson Municipal Airport Authority
(601) 664-3502
bwilson@jmaa.com

December 2010

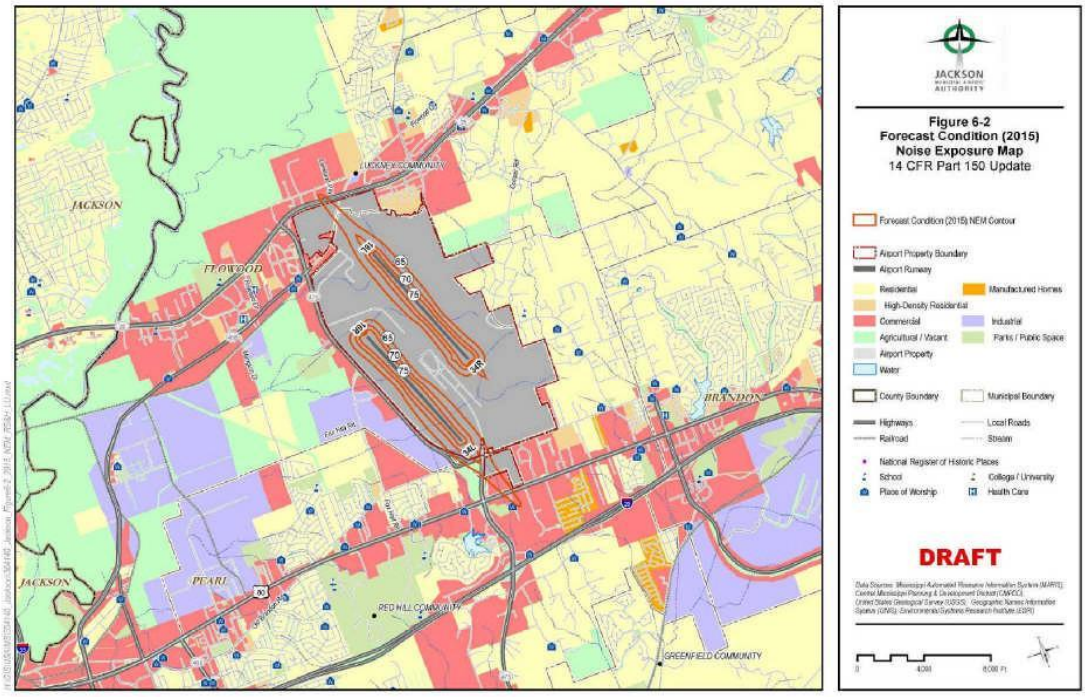
Public workshop handout 2 (cont)



Existing Conditions (2010) Noise Exposure Map

December 2010

Public workshop handout 2 (cont)



Forecast Conditions (2015) Noise Exposure Map

December 2010

Public Comment from Public Workshop

Jackson Municipal Airport Authority

COMMENT SHEET

Jackson Municipal Airport Authority Public Meeting
Thursday, November 18, 2010
4 to 7 p.m.

Mississippi Agriculture and Forestry Museum
Masonic Lodge
1150 Lakeland Drive, Jackson, Miss.

Your thoughts, needs, and ideas concerning the Master Plan Study, Noise Study, and development along the East Metro Corridor for the Jackson-Evers International Airport are very important to us.

Please complete this form and leave it with a representative of this public meeting.

I Live @ Brandon We dont Have Any Noise @ All We are blessed To have The Airport This Close

Continued on back...

Public review information cover sheet

JACKSON
MUNICIPAL AIRPORT
AUTHORITY

Jackson Municipal Airport Authority

Jackson-Evers International Airport
14 CFR Part 150
Noise Exposure Map Update

The accompanying draft Noise Exposure Map documentation is available at four public facilities for review:

1. Jackson-Evers International Airport, 100 International Drive, Jackson
2. Eudora Welty Library, 300 North State Street, Jackson
3. Brandon Public Library, 1475 W. Government Street, Brandon
4. Reservoir Public Library, 2230 Spillway Road, Brandon

The documents are also available on the Jackson Municipal Airport Authority (JMAA) website.

http://www.jmaa.com

Comments may be submitted via:

Email: Jacksonpart150@hmmh.com

U.S. Mail: Jackson-Evers International Airport Part 150
c/o HMMH
8880 Cal Center Dr #430
Sacramento, CA 95826

NOTE: Comments must be received no later than 5 p.m. Tuesday, November 30, 2010.