FEDERAL AVIATION ADMINISTRATION

RECORD OF APPROVAL
14 CFR PART 150
NOISE COMPATIBILITY PROGRAM

LOUISVILLE INTERNATIONAL AIRPORT
LOUISVILLE, KY

Regional Counsel, ASO-7

✓ CONCUR _____ NONCONCUR

8/3/09
Date

Airports Division Manager
Southern Region

✓ APPROVED _____ DISAPPROVED

8/4/09
Date

RECORD OF APPROVAL
LOUISVILLE INTERNATIONAL AIRPORT
Louisville, KY

BACKGROUND

On October 29, 2008, the Louisville Regional Airport Authority (LRAA) provided the Federal Aviation Administration (FAA) Air Traffic Organization with a letter and supporting documentation requesting an Offset Approach to Runway 17R at Louisville International Airport (SDF). In the request, LRAA referred to a noise abatement (NA) measure, NA-7, proposed when they submitted their Noise Compatibility Program under Part 150 to the FAA for action in 2003. Noise Abatement (NA) -7, included in part, a proposal for an offset approach to Runway 17R.

Following normal FAA protocol for reviewing flight procedure requests, the FAA Air Traffic Organization evaluated the approach request and supporting technical data that LRAA provided.

On, April 03, 2009, the FAA sent a response letter to LRAA disapproving their request to implement an offset approach to Runway 17R at SDF. The FAA disapproval letter identified serious concerns with safety, efficiency, and incompatibility with existing and proposed arrival routes at SDF as the basis for the disapproval.

INTRODUCTION

On May 14, 2004, of the 42 measures proposed by the LRAA for the Louisville International Airport (SDF) Noise Compatibility Program (NCP), the Federal Aviation Administration (FAA) approved 20; approved in part 8; disapproved 3; disapproved for FAR Part 150 purposes 4; and took no action on 7. The FAA took no action on 7 of the measures because they related to new or revised flight procedures for which insufficient data was provided to allow an approval/disapproval determination.

The FAA has determined that the technical information provided by LRAA in support of their request (outside of the Part 150 Process) for an offset approach to runway 17R and the subsequent analysis by ATO is sufficient information to issue a ROA in accordance with 40 CFR Part 150 for 3 of the 7 previously deferred Noise Compatibility Program (NCP) noise abatement measures.

This Record of Approval (ROA) contains the FAA's approval/disapproval decisions for 3 of the 7 NCP measures that were previously deferred: Noise Abatement Measure 2 (NA-2); Noise Abatement Measure 3 (NA-3); and Noise Abatement Measure 7 (NA-7). All other portions of the previously issued ROA remain in effect.

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, if implemented, be consistent with the purposes of 14 CFR Part 150. The FAA has provided technical advice and assistance to the airport to ensure that the operational elements are feasible (see 14 CFR 150.23(c)). These approvals do not constitute decisions to implement the actions. Later decisions concerning possible implementation of measures in this ROA will be subject to applicable environmental or other procedures or requirements, including Section 106 of the National Historic Preservation Act (NHPA).

The ROA summarizes as closely as possible the LRAA's recommendations for noise abatement measures which were identified in their NCP. Note, the recommendations/measures in this ROA were developed by the sponsor (LRAA), not the FAA. The ROA depicts the sponsors recommendation followed first by the FAA's action/determination executed in the May 14, 2004 ROA, and then by the FAA's current action/determination.

1) **NA-7: Use an Offset Departure from Runway 35L and Offset Approach to Runway 17R.** (pages 8-16, 8-74, 8-81, table 8-2, and table 11-2). This measure is to take advantage of an industrial corridor to the northwest of the runway to reduce the adverse effects of the recommended change in preferential use of the east and west runways (Measure NA-2). Aircraft not equipped with GPS/FMS would require installation of a Localizer type directional aid (LDA). It is assumed that a Local Area Augmentation System (LAAS) would be required for a Global Positioning System (GPS) approach. This measure would remove about 423 homes north of the airport from the DNL 65 contour.

   May 5, 2004 FAA Action (Previous):
   No action required at this time. This measure relates to flight procedures under 49 U.S.C. section 47504(b). A technical analysis of this measure in concert with Measures NA-2 and NA-3, and an environmental analysis, are required to determine its feasibility and environmental impacts. FAA is concerned that adoption of the arrival portion of this measure would reduce runway arrival capacity by approximately one-third when the offset approach is in use. While we do not object in principle to the departure procedure as a voluntary measure, the NCP does not provide separate analysis for the departure procedure alone. The FAA will review the study results to determine whether this measure is feasible. At present, when parallel approaches are being conducted, current procedures allow for lateral separation of 2 miles between two aircraft landing on the parallel runways. Using an offset approach to RWY 17R, this separation standard would increase to 3 miles.

   FAA Action (Current): Disapproved. Operational procedures necessary to implement this measure were detailed in the supplemental supporting information provided by LRAA requesting FAA approval for implementation of an Offset Approach to Runway 17R outside of the Part 150 process (See

attachment 1). The result of the FAA's technical evaluation concluded the procedures were unacceptable and the request was disapproved (See attachment 2). This measure cannot be implemented without reducing the level of aviation safety provided and adversely affecting the efficient use and management of the navigable airspace and air traffic control systems. Because the measure was disapproved operationally, no additional environmental study or analysis is necessary.

2) **NA-2: Reverse East-West preference (Day and Night).** Reverse the current runway use program to prefer the west runway. The trigger of 3 aircraft in the landing or departure queue currently used to direct air traffic to both runways would be retained. (NCP pages: 8-6, 8-49 thru 8-53, 8-79, tables 8-2, and 11-2). This measure would reduce the noise impacts within the DNL 65 contour to about 2,175 residents and 1,079 dwelling units but would increase noise over the University of Louisville, Old Louisville and the neighborhoods to the northwest. Because students at U of L were not included in the impact analysis the number of students experiencing noise impacts are not known. The measure, if combined with Measure NA-7, would take advantage of a corridor of compatible land uses immediately north of the airport.

May 5, 2004 FAA Action (Previous):
No action required at this time. This measure relates to flight procedures under 49 U.S.C. section 47504(b). A technical analysis of this measure in concert with Measures NA-3 and NA-7, and an environmental analysis, are required to determine its feasibility and environmental impacts. The FAA also will determine during any follow-on analysis whether the measure provides an overall net benefit to populations impacted, including the U of L, a requirement under Part 150.

FAA Action (Current):
Disapproved. This measure is disapproved because it is dependent/relational to NA-7 which is disapproved. Because the measure was disapproved operationally, no additional environmental study or analysis is necessary.

3) **NA-3: Morning North flow Preference; Revision of Existing Measure NA-1.** In conjunction with the offset approach and departure recommendation (NA-7), reverse the normal daytime runway use preference from south flow to north flow during morning hours 9:30 a.m. to 12:30 p.m. to minimize overflights of the University of Louisville and residential areas to the north of the airport. (page 8-79, table 11-2). There are more aircraft arrivals than departures during this period at SDF.

May 5, 2004 FAA Action (Previous):

No action required at this time. This measure relates to flight procedures under 49 U.S.C. section 47504(b). A technical analysis of this measure in concert with Measures NA-2 and NA-7, and an environmental analysis, are required to determine its feasibility and environmental impacts. Implementation of this measure would be in conjunction with NA-2 and NA-7 if approved (This measure would modify measure NAA 7.1 in the 1995 ROA).

FAA Action (Current):
Disapproved. This measure is disapproved because it is dependent/relational to NA-7 and NA-2 which were disapproved. Because the measure was disapproved operationally, no additional environmental study or analysis is necessary.

ATTACHMENT 1

LOUISVILLE

REGIONAL

AIRPORT

AUTHORITY

October 29, 2008

Mr. David Senechal
Federal Aviation Administration
Louisville-Standiford ATCT/TRACON
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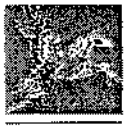
Louisville, KY 40213



Re: Request for the Implementation of the Louisville International Airport FAR Part 150 Update Noise Abatement Measure 7 Offset Approach

Dear Mr. Senechal:

The Louisville Regional Airport Authority (RAA) formally requests the implementation of the offset approach component of Noise Abatement Measure 7 as detailed in the Louisville International Airport FAR Part 150 Update dated May 24, 2004. The intent of this measure is to implement an offset approach to Runway 17R at the Louisville International Airport (SDF) through an industrial corridor northwest of the airport and south of the University of Louisville campus, alleviating noise and reducing the need for sound insulation in neighborhoods north of the airport.

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LOUISVILLE
INTERNATIONAL
AIRPORT

BOWMAN FIELD

As you know, the LRAA has conducted various working meetings with UPS and local Air Traffic Control personnel over the past two years in order to determine the feasibility of the approaches and define the steps for implementation. UPS has conducted flight simulator tests of these procedures and has indicated a willingness to fly the procedures provided capacity is not impacted and that proper vertical guidance is available (electronic or visual).

Implementation of the measure involves the development of two procedures: 1) an RNAV (GPS), and 2) an LDA to Runway 17R. Modification of the existing Precision Approach Path Indicator (PAPI) serving Runway 17R and the installation of a localizer and DME are also required.

The following paragraphs detail the history of this project, define the project purpose and need, identify NAVAID equipment requirements, and provide general costs associated with the implementation of the measure.

Project History, Purpose and Need:

In January of 2003 an FAA FAR Part 150 Noise Study Update for the Louisville International Airport, prepared by airport consultants Leigh Fisher Associates was submitted to the Federal Aviation Administration. This Noise Compatibility Study (the Study) was initiated to update aircraft noise and land use compatibility plans first completed in 1993. A number of recommendations came out of the Study, two of which will be addressed in this request: measures NA-2 and NA-7.

Measure NA-2 is an Air Traffic Control measure that calls for the reversal of the current East-West Runway Preference (Day and Night). The proposal is to reverse the current runway use program to prefer the west runway. The "trigger" of three aircraft in the landing or departure queue currently used to direct ATC to use both parallel runways would be retained as part of this measure. This measure would be combined with measure NA-7, described below, to mitigate potential noise increases at the University of Louisville and in Old Louisville, a community located immediately north of the University.

Measure NA-7 is an Approach and Departure Procedure measure which recommends an offset departure from Runway 35L and an offset approach to Runway 17R. The purpose of the measure is to route air traffic through a noise compatible industrial corridor to the northwest of Runway 17R, thereby reducing the number of homes and noise sensitive facilities within the DNL 65 noise contours in the areas north of the airport. Implementation of this measure could reduce the cost of sound insulation (to be funded through FAA AIP grants) by $36 million.

As previously discussed, only the approach procedures are being requested at this time. The intent is to utilize the approaches during VFR conditions only when capacity is not impacted. The concept is modeled after the Simultaneous Offset Instrument Approach (SOIA) currently in use at the San Francisco International Airport. The SOIA approach has been implemented successfully and has accommodated arrival rates ranging from 30 to 60 operations per hour as detailed in **Table 1**.

Table 1
Simultaneous Offset Instrument Approach (SOIA)
San Francisco International Airport (SFO)
Historical Operations

Date	Began	Ended	Duration	Arrivals 28L/28R	Rate	LDA/PRM 28R	Sky Conditions	Vis.
10/25/04	11:31	12:04	0:33	22	40	9	BKN 42 to BKN 50	10
10/27/04	8:54	9:42	0:48	25	31	10	BKN 22	10
10/27/04	11:07	12:48	1:41	61	36	22	FEW 25 to SCT 40	10
11/08/04	9:32	11:26	1:54	65	34	32	BKN 30	10
11/08/04	11:57	12:46	0:49	25	30	11	OVC 31	10
11/08/04	14:38	15:28	0:50	26	31	4	OVC 30 to OVC 37	10
11/27/04	10:35	11:09	0:34	18	32	8	BKN 29 to BKN 32	10
12/07/04	9:33	9:59	0:26	21	48	11	BKN 21 to BKN 24	10
12/07/04	11:25	11:42	0:17	14	49	7	BKN 26	10
01/28/05	9:42	11:30	1:48	61	34	30	SCT 028 BKN 038 BKN 055	9
01/28/05	14:13	15:12	0:59	32	33	11	SCT 024 BKN 037	10
02/07/05	11:07	11:38	0:31	21	41	10	FEW 037 SCT 045 BKN 60	10
02/24/05	9:31	11:14	1:43	59	34	27	OVC 021	10
02/24/05	12:08	12:41	0:33	19	35	10	SCT 019 OVC 021	10
02/24/05	16:06	19:37	1:31	54	36	25	OVC 021	10
02/25/05	10:18	10:38	0:20	12	36	7	SCT 024 OVC 029	10
02/25/05	11:11	12:31	1:20	51	38	24	OVC 031	10
03/13/05	10:07	10:21	0:14	8	34	4	SCT 023	10

03/22/05	9:40	11:44	2:03	68	33	38	SCT 15 BKN 22 OVC 34	7
03/23/05	9:22	10:13	0:51	37	43	21	BKN 025 OVC 048	10
03/23/05	11:12	12:04	0:52	36	43	19	SCT 025 SCT 042 OVC 055	10
04/07/05	10:06	10:34	0:26	20	43	9	FEW 020 SCT 035 OVC 180	10
04/08/05	12:51	14:17	1:26	50	35	22	SCT 031 BKN 065	8
04/11/05	9:42	10:28	0:46	31	40	16	BKN 020 BKN 038	10
04/11/05	11:34	12:08	0:34	26	46	11	SCT 018 BKN 028	10
04/24/05	11:15	11:50	0:35	27	46	15	SCT 027 BKN 035 BKN 060	10
04/29/05	9:12	10:16	1:04	49	46	24	FEW015 BKN025	10
05/05/05	10:15	10:47	0:32	23	43	12	FEW012 SCT023 BKN065	10
05/05/05	14:21	14:56	0:34	17	29	8	SCT033 BKN055	10
05/05/05	11:12	11:33	0:21	16	44	8	SCT025 SCT055	10
05/06/05	18:45	20:00	1:15	39	31	18	SCT022 BKN033 BKN090	10
05/06/05	20:52	21:34	0:42	31	44	16	FEW017 SCT038 BKN070	10
05/07/05	9:04	12:30	3:26	123	36	62	FEW017 SCT024 BKN 041	10
05/09/05	9:36	10:36	0:59	44	44	21	SCT021 BKN033 BKN050	6
05/16/05	11:11	11:42	0:31	21	41	11	SCT022 SCT028	10
05/17/05	9:34	10:14	0:40	31	48	14	SCT024 BKN180	10
05/19/05	17:04	17:42	0:38	24	37	8	FEW021 SCT025 BKN040	10
05/28/05	10:23	10:49	0:26	16	37	8	FEW009 SCT014 BKN250	10
06/17/05	9:33	10:26	0:53	37	42	19	FEW028 BKN034 BKN041	10
06/18/05	9:30	10:23	0:53	31	35	16	SCT024 SCT034 BKN043	10
06/18/05	11:05	11:57	0:52	34	38	15	SCT024 SCT036 BKN050	10
06/25/05	9:49	12:08	2:19	81	35	39	BKN024	10
06/2705	10:34	11:25	0:51	35	41	18	BKN024	10
10/15/05	9:19	9:56	0:37	29	47	14	BKN018 OVC032	7
10/15/05	11:05	11:37	0:32	28	53	10	FEW015 SCT023	10
10/19/05	9:27	11:52	2:25	99	40	41	FEW015 OVC024	10
10/26/05	15:18	15:47	0:29	9	21	5	FEW012	10
12/12/05	17:08	17:58	0:50	33	48	16	BKN32 to BKN43	10
01/07/06	9:13	10:45	1:32	53	30	24	BKN 28	10
03/07/06	10:51	11:19	0:28	29	62	11	SCT060 SCT150	10

Notes:

1. Information obtained from September 12, 2006 SFO Port Authority presentation
2. SOIA approach used only when ceiling minimums are 2100' or greater.
3. Runway 28L and 28R separation = 3000'.

Procedure(s) Development Request:

The implementation of these measures requires the development of an offset RNAV (GPS) approach and an LDA Approach to Runway 17R. It is requested that the development of these procedures be separated into two phases: Phase 1 and Phase 2.

Phase 1 focuses on accommodating GPS approach capable aircraft and includes the development of an RNAV (GPS) approach procedure. This phase is based on the premise that a procedure of this type requires little or no investment in ground based NAVAIDs and can be implemented immediately. Phase 1 represents the starting point of the implementation of NA-7 and could serve as the catalyst to perfecting the operation prior to the implementation of Phase 2. Based on a sample of operations data obtained from the SDF tracking system data, this approach could accommodate up to 45% of the existing UPS fleet at SDF.

Phase 2 focuses on accommodating non-GPS/FMS equipped aircraft and includes the development of an LDA approach and the implementation of Localizer and DME infrastructure. Implementation of Phase 2 will be conducted after the RNAV GPS procedures have been implemented and ground based NAVAID equipment has been installed. Combined with Phase 1, this approach should accommodate all operations at SDF.

Two prototype approach procedures have been developed by ASRC Research and Technology Solutions (ARTS). These procedures have been coordinated with the Louisville Regional Airport Authority (LRAA) and meet the intent of Noise Measure NA-7. As previously mentioned, the RNAV procedure could be implemented immediately. However, the LDA approach requires ground based infrastructure and a final procedure can not be developed or implemented until the equipment is installed.

Phase 1: RNAV (GPS) Runway 17R

The procedure requested is an RNAV (GPS) approach procedure to Runway 17R. The final approach course is 150.75° True and is offset from the runway centerline of 165.41° True by 14.66°. The final approach course crosses runway centerline 5200' from the displaced threshold of Rwy 17R which is the maximum allowed by criteria. The intermediate segment is aligned with the final segment, is 6 NM in length, and has a minimum altitude of 2500' MSL, which is the intercept altitude for the LNAV/VNAV portion of the approach. The glide path angle and the TCH for the LNAV/VNAV are 3.0° and 55' respectively. The missed approach clearance limit is proposed as BETHY intersection (waypoint) or as requested by ATC. Differences in criteria do not allow the use of DAMEN intersection as a missed approach clearance limit.

There are two initial approach fixes, (IAFs) for this procedure. One is at NABB VORTAC and the other is at MAIZE intersection which will have to be modified to include a waypoint. A minimum altitude of 3000' is proposed for each initial segment. A copy of the proposed RNAV (GPS) approach procedure is shown in **Attachment 1**.

Phase 2: LDA Runway 17R

The second procedure requested is an LDA approach to Runway 17R for aircraft not equipped to fly the RNAV approach, including almost every aircraft operating at SDF. Development of Phase 2 is requested to begin after the implementation of the RNAV procedure. The procedure will require the installation of a localizer and DME which will be funded by the Airport Improvement Program as part of the FAA approved FAR Part 150 Noise Study and installed in accordance with FAR Part 171 *Non Federal Navigation Facilities*. It would be the intent of the LRAA to request FAA take over the maintenance of the system upon its commissioning.

The ground track of the LDA is identical to the RNAV 17R approach. The final approach course is 150.75° True and the final approach course crosses the runway centerline 5200' from the displaced threshold for Runway 17R. The glide path angle is 3.0° and will utilize an offset PAPI for 17R. The missed approach is different from the RNAV (GPS) Rwy 17R procedure. The missed approach clearance limit for the LDA is DAMEN intersection as is the current missed approach for the ILS Runway 17R procedure.

The intermediate segment altitude remains at 2500' MSL. The length of the intermediate segment is 6 NM. The initial approach fix (IAF) is at NABB VORTAC and the initial segment altitude is 3000' MSL. DME or RADAR is required to identify the intermediate fix and the final approach fix.

A copy of the proposed LDA approach procedure is shown in **Attachment 2**. A full feasibility study and siting report, estimate for the installation of the PAPI, localizer and DME is contained in **Attachment 3**.

Cost Benefit of the Requested Equipment and Procedures:

Costs of implementing these procedures include procurement of NAVAIDs, engineering and installation, flight check, and maintenance. For budgetary purposes, rough order-of-magnitude costs have been developed for the RNAV (GPS) and the LDA procedures and are detailed in **Tables 2 and 3.**

Table 2
Estimated Cost for Implementation of
RNAV(GPS) Approach to Runway 17R

Facility	Procure Cost	Install Cost	Notes
PAPI	$40,000	$20,000	Assumes an additional PAPI system will be installed. An additional PAPI may not be required.
Totals	**$40,000**	**$20,000**	

Notes:
1. Cost generated for planning purposes only. Upon the approval of the measure, cost estimates will be refined based on specific site requirements and discussions with vendors.
2. PAPI installation may not be required as existing facility may provide coverage or be modified to provide coverage.

Table 3
Estimated Cost for Implementation of
LDA Approach to Runway 17R

Facility	Procure Cost	Install Cost	Notes
Localizer	$250,000	$350,000	Assumes terminal mounted system work, power and access available; ground-mounted antenna array
DME	$100,000	$30,000	Co-sited with LOC
PAPI	$40,000	$20,000	Assumes an additional PAPI system will be installed. An additional PAPI may not be required.
Miscellaneous	---	$50,000 $30,000	Sight Testing Flight inspection
Maintenance Fee LOC/GS		$15,000	Cost per year routine conditions/flight inspections
Totals	**$540,000**	**$570,000**	

Notes:
1. Cost generated for planning purposes only. Upon the approval of the measure cost estimates will be refined based on specific site requirements and discussions with vendors.
2. PAPI installation may not be required as existing facility may provide coverage or be modified to provide coverage.
3. PAPI costs are duplicated from RNAV costs.

As previously mentioned, the implementation of these approaches is anticipated to save up to $36 million in sound insulation for houses north of the airport, representing a significant benefit based on the investment dollars required for the RNAV or LDA approaches.

We understand the implementation of the NA-7 approach procedures will require coordination from other FAA departments including: Airports, Airway Facilities, Flight Procedures Office, and Flight Standards. We have copied key FAA personnel on our request in an effort to move forward quickly and in a coordinated manner.

We look forward to working with you on this project and thank you for your assistance. If you have any questions, please contact me at 502-368-6524.

Sincerely,

C.T. "Skip" Miller, A.A.E.
Executive Director
Louisville Regional Airport Authority

Cc: Philip Braden, FAA Airports District Office
Rusty Chapman, FAA Southern Region Airports Office
Gerald Lynch, FAA Eastern Region Flight Procedures Office
Douglas Murphy, FAA Southern Region Administrator
Karen Scott, LRAA Deputy Executive Director
Bob Slattery, LRAA Noise Abatement Manager

LOUISVILLE, KY

APP CRS	Rwy Idg 10000'
154°	TDZE 486'
	Apt Elev 500'

RNAV RWY 17R

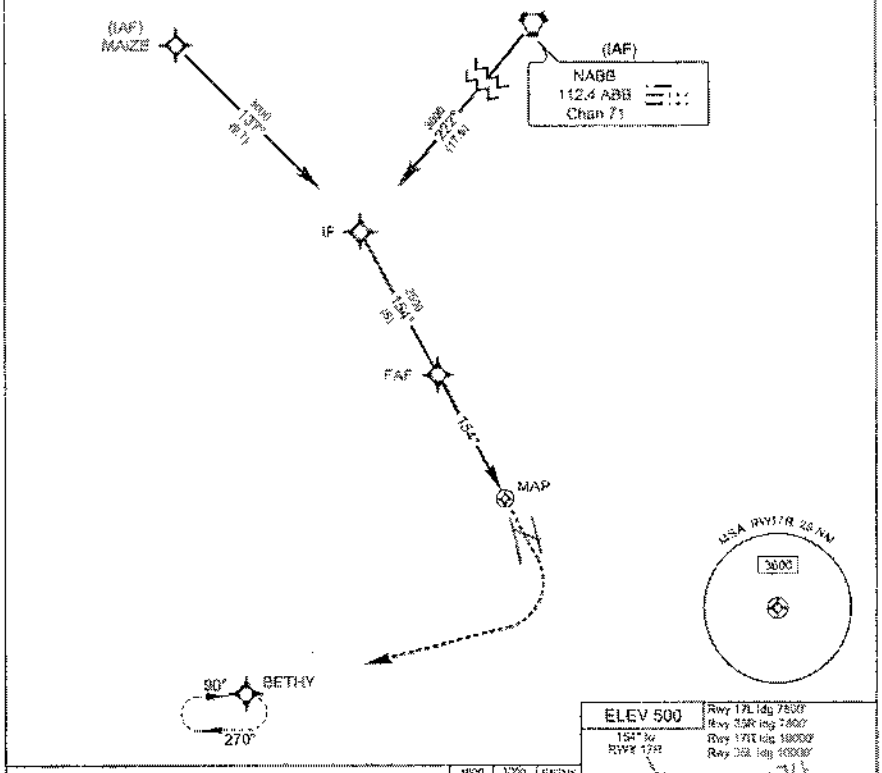
LOUISVILLE INTL - STANDIFORD FIELD (SDF)

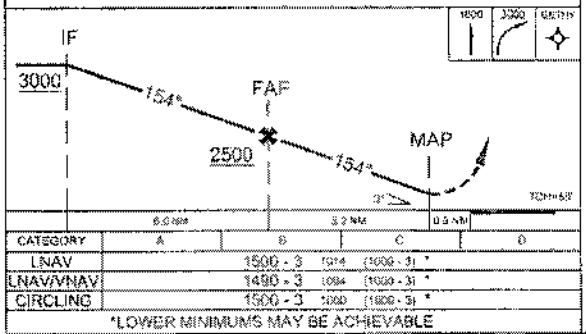
NA

MALSR

MISSED APPROACH: Climb to 1600' then climbing right turn to 3000' direct BETHY WP and hold.

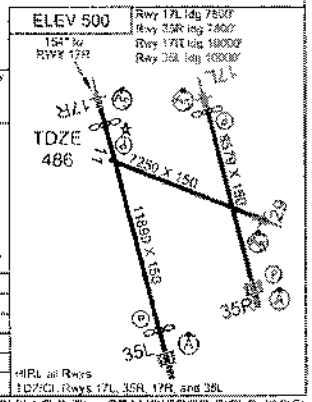
ATIS	LOUISVILLE APP CON	LOUISVILLE TOWER	GND CON	CLNC DEL
119.725	132.675 327.0 (EAST) 123.675 327.0 (WEST)	124.2 257.8	121.7 348.6	128.1





CATEGORY	A	B	C	D
LNAV	1500 - 3	1614	(1600 - 3)	
LNAV/VNAV	1490 - 3	1604	(1600 - 3)	
CIRCLING	1500 - 3	1614	(1600 - 3)	

*LOWER MINIMUMS MAY BE ACHIEVABLE



LOUISVILLE, KY — 38° 10'N-85° 44'W — LOUISVILLE INTL - STANDIFORD FIELD (SDF)

RNAV RWY 17R

Prepared by ASRC
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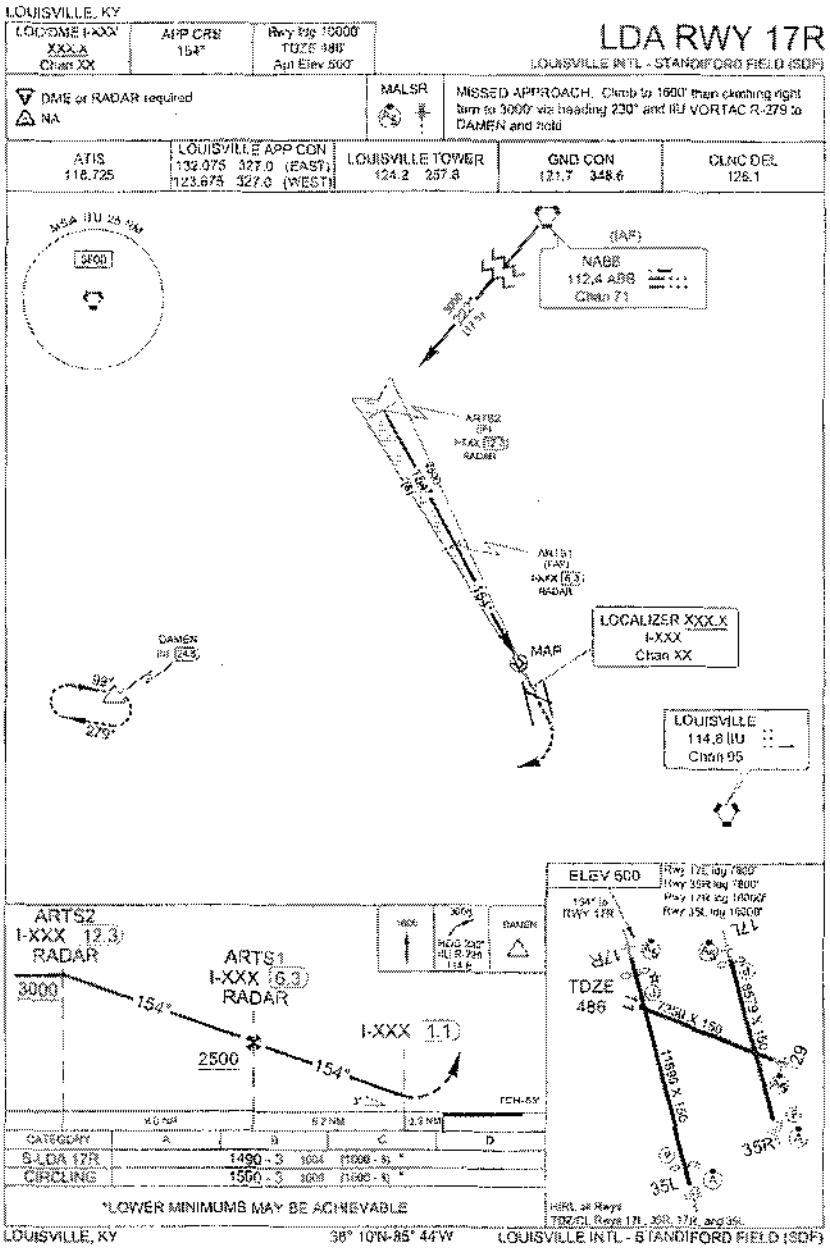
DRAFT ONLY - NOT FOR COCKPIT USE



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ATTACHMENT 2

U.S. Department
of Transportation
**Federal Aviation
Administration**

1701 Columbia Avenue
College Park, GA 30337-2748

APR 03 2009

Mr. C. T. "Skip" Miller, A.A.E.
Executive Director
Louisville Regional Airport Authority (LRAA)
P.O. Box 9129
Louisville, KY 40209

Dear Mr. Miller: Skip

This is in response to your October 29, 2008 letter requesting implementation of the Louisville-Standiford International Airport (SDF) 14 Code of Federal Regulations (CFR), Part 150 Update, *Noise Abatement Measure 7 Offset Approach.*

In the Federal Aviation Administration (FAA) Record of Approval (ROA), dated May 14, 2004 a determination of "No action required at this time" was given for Noise Compatibility Program (NCP) Measure NA-7, which included the proposed offset approach procedure. The determination additionally stated "a technical analysis of this measure...and an environmental analysis are required to determine its feasibility and environmental impacts." The determination also highlighted operational and capacity concerns that were not addressed adequately in the Louisville Regional Airport Authority (LRAA) NCP. Finally, NA-7 speaks specifically to a Global Positioning System (GPS) or Localizer-Type Directional Aid (LDA) offset instrument approach to runway 17R. We started a formal analysis when we received the additional approach information in your October 29, 2008 request.

FAA's approval or disapproval of 14 CFR, Part 150 NCP recommendations is measured according to standards in Part 150 and the Aviation Safety and Noise Abatement Act of 1979. Part 150, Section 150.35 includes language stating that programs will be approved under this part if program measures relating to the use of flight procedures for noise control can be implemented within the period covered by the program and without reducing the level of aviation safety provided or adversely affecting the efficient use and management of the navigable airspace and air traffic control systems.

While not considering the absence of an environmental analysis nor a subsequent Safety Risk Management evaluation, FAA evaluated potential safety issues, technical feasibility, and operational efficiencies of your proposed offset approach procedure. As a result, the proposed instrument offset approach procedure to Runway 17R at Louisville-Standiford

International Airport (SDF), and the corresponding components of measure NA-7, are both deemed unacceptable and are disapproved for implementation.

FAA's decision includes these comments:

- The Flight Standards Division does not consider this procedure to be a safe operation. The stabilized approach would be compromised, and the missed approach (particularly with loss of engine power) would be under less than ideal conditions and would place the aircraft over a populated area close to the surface, as well as the parallel runway, while maneuvering in a non-favorable environment.

- The Quality Oversight and Technical Advisory, National Flight Procedures Office does not support development of the offset approach due to runway alignment and stabilization criteria, as well as an excessive required missed approach climb gradient.

The Air traffic Organization (ATO) has serious concerns about safety, efficiency, and incompatibility with existing and proposed arrival routes. ATO specifics include:

- The flight path of the proposed offset procedure would place the published missed approach procedure in conflict with arrivals and departures operating from RWY 17L/35R. This would create a significant safety risk. In addition, IFR arrivals from the east, destined for the offset approach, would be required to cross the straight-in final approach course for both Runways 17L and 17R before entering the pattern for the offset approach, which would result in an increased safety risk, along with an increased risk of separation errors.

- Use of an offset approach would eliminate Air Traffic control (ATC) ability to run simultaneous approaches to Runways 17L and 17R. This existing ability is key to an expeditious arrival traffic flow, and was one of the criteria used when designing the airport layout. Simultaneous approaches require that the approaches be parallel precision approaches. An offset approach to RWY 17R is neither parallel nor precise, and does not meet this criterion.

- An offset approach would require the use of increased separation standards, and result in substantial delays for arriving aircraft. It is estimate that an "offset" instrument approach procedure would restrict arrival capacity by approximately 1/3 during instrument (non-visual) weather conditions. Further reductions in capacity would result from the necessity to move the downwind leg of the Runway 17R approach approximately 5-7 miles beyond its normal location in order to accommodate this approach. This inefficiency would be exacerbated if Runway 17R were the preferred runway for all instrument arrivals, as proposed in NA-7.

- Normally, during visual conditions, and light-to-moderate traffic levels, arriving aircraft fly a "visual approach," which is generally the most direct and efficient route to the airport. Mandating the use of an instrument procedure during visual

conditions, for non-operational reasons, would result in extended flying miles, added time, and increased costs for our users.

- UPS and FAA are, at this time, collaboratively working to develop RNAV STARS for all runways at SDF. When complete, these STARS (Standard Terminal Arrival Routes) are expected to standardize arrival procedures into SDF, and provide significant cost and efficiency benefits to UPS and other airport users. The offset approach procedure proposed by LRAA is not compatible with these RNAV STARS.

- The proposed offset approach, as specified in the Part 150 Update, would be used in conjunction with NA-2, which reverses the current runway use program to prefer the west runway (RWY 17R). This would imply a significant use of this offset procedure, which would exacerbate the concerns highlighted above.

Based on your request and the aforementioned comments resulting from our technical analysis, the noise abatement measure NA-7, Use an Offset Departure from Runway 35L and Offset Approach to Runway 17R, is disapproved, from a procedural standpoint. In addition, the other noise abatement measures dependent on the Offset Approach, NA-2, Reverse East-West Preference and NA-3, Morning North Flow Preference are also disapproved. This proposal cannot be implemented without reducing the level of aviation safety provided and adversely affecting the efficient use and management of the navigable airspace and air traffic control systems. This disapproval does not constitute a determination under Part 150 which will be completed by the Memphis Airports District Office. They will be contacting you to revise the Record of Approval to reflect these disapprovals in accordance with Part 150.

Finally, according to 14 CFR Part 150, Subpart B, 150.21(d)(4), if your forecast Noise Exposure Map (NEM) is based on assumptions involving recommendations in the Noise Compatibility Program that are subsequently disapproved by FAA and that would change the future NEM such that a substantial, non-compatible land use is either excluded or included, contrary to the forecast NEM, a revised map must be submitted. Revised NEMs are subject to the same requirements and procedures as initial submissions of NEMs under Part 150. Please contact the Memphis Airports District Office at 901-322-8181 for further guidance on Part 150 issues.

If you need more information, please contact me at 404-305-5000.

Sincerely,

Douglas R. Murphy
Regional Administrator, Southern Region