CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

National Policy

8260.49A
CHG 1

Effective Date:
11/09/12

SUBJ: Simultaneous Offset Instrument Approach (SOIA)

1. Purpose. This order provides criteria and guidance for constructing and operating simultaneous offset instrument approaches (SOIA) to parallel runways spaced at least 750 ft apart, and less than 3,000 ft apart at airports identified by the Federal Aviation Administration (FAA) for SOIA. This order establishes criteria for conducting closely spaced parallel operations and identifies procedural requirements to ensure safety. Implementation of SOIA procedures requires additional analysis and study.

2. Who this change affects. The primary audience for this order is the SOIA Site Implementation Team that has the responsibility to develop and implement SOIA operations. The secondary audience includes AeroNav Products other Air Traffic Organization (ATO) Service Area offices and Flight Standards headquarters and regional office Divisions/Branches.

3. Where You Can Find This Order. You can find this order on the FAA's Web site at http://www.faa.gov/regulations_policies/orders_notices.

4. Cancellation. AFS-400 Memorandum titled, "Clarification of Order 8260.3B, United States Standard for Terminal Instrument Procedures (TERPS), Change 20, and Order 8260.49A, Simultaneous Offset Instrument Approach (SOIA)," dated July 30, 2008.

5. Explanation of changes.

a. Paragraph 9.0. Corrected references: For Localizer Type Directional Aid (LDA); Instrument Landing System (ILS); Order 8260.3, U.S. Standard for Terminal Instrument Procedures (TERPS), Volume 3, appendix 3 and Order 8260.49A, paragraph 11.3.

b. Paragraph 10.0.

(1) Added guidance for RNAV (GPS) and RNAV (RNP) AR.

(2) Clarified that the sources of approach design guidance are the current criteria for that type of navigation. ILS approaches are designed to Order 8260.3; LDA with glide slope approaches are designed to Order 8260.3 and an associated policy memorandum from AFS-400 titled "Localizer Directional Aid (LDA) with Glide Slope Procedure Construction Criteria," dated August 28, 2008.

(3) The term "current criteria" is added to this paragraph to automatically point to the new or revised criteria when there are criteria changes. RNAV (GPS) approaches have been designed to Order 8260.58, United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design).

c. Paragraph 10.1. Added a new paragraph RNAV (GPS) and RNAV (RNP) AR for SOIA straight-in approach design.

d. Paragraph 10.2.

(1) Added guidance RNAV (GPS) and RNAV (RNP) AR for SOIA offset course approach design.

(2) Updated references for AFS-440 to AFS-450, Flight Systems Laboratory Branch.

(3) Clarified the method of determining decision altitude (DA) based on using the results of AFS-450's automated analysis, in addition to using the evaluation described in TERPS. This revision for DA was previously in paragraph 10.0.1b (1) and incorporated interim guidance from the AFS-400 Memorandum, dated 07/30/2008.

e. Paragraph 10.3. Added guidance to describe the SOIA Site Implementation Team.

f. Paragraph 10.4. Added guidance to describe the Attention All Users Page (AAUP).

e. Paragraph 11.0.

(1) Updated references for the SOIA Design Program from AFS-440 to AFS-450.

(2) Moved guidance to paragraph 10.3 for procedure requestors to contact AFS-400.

f. Paragraph 11.1.

(1) Consolidated ceiling guidance with similar information in paragraph 13.

(2) Incorporated a revision/deletion previously in the AFS-400 Memorandum, dated 07/30/2008.

g. Paragraph 11.2.

(1) Clarified guidance to match the method currently used for determining the visibility.

(2) Incorporated a revision/deletion previously in the AFS-400 Memorandum, dated 07/30/2008.

(3) Modified wording for approach courses to also apply to approaches that use RNAV (GPS) or RNAV (RNP) AR.

h. Paragraph 11.3.

(1) Added guidance for approaches that use RNAV (GPS) or RNAV (RNP) AR.

(2) Added guidance for handling requests that have both a SOIA approach and a corresponding non-SOIA approach.

i. Paragraph 11.4.

(1) Clarified the method for design to staggered thresholds.

(2) Added guidance for approaches that use RNAV (GPS) or RNAV (RNP) AR.

j. Paragraph 11.5.

(1) Changed the reference to Order 8260.3, Volume 1 from paragraph 251 to be paragraph 3.3.2 c, which is the new paragraph number for evaluating the visual segment.

(2) Modified wording for offset approach courses to also apply to approaches that use RNAV (GPS) or RNAV (RNP) AR. Previously the offset course only addressed LDA.

k. Paragraph 12.0.1.

(1) Modified wording for approach courses to also apply to approaches using RNAV (GPS) or RNAV (RNP) AR.

(2) Clarified guidance for missed approach 45 degree divergence to start at the DA and continue until other radar or non-radar separation is applied.

(3) Added guidance to use "current TERPS evaluation for the offset course type of approach navigation." At the present time for LDA that refers to Order 8260.3 and associated policy memorandums. At the present time RNAV (GPS) or RNAV (RNP) AR is Order 8260.54 or Order 8260.52; however, that is changing to be Order 8260.58.

l. Paragraph 12.0.2.

(1) Changed the missed approach evaluation, based on user request, to also consider a go-around executed past the DA.

(2) Incorporated AFS-400 Memorandum, dated 07/30/2008.

n. Paragraph 13.0.

(1) Changed the title from "Wake Turbulence Requirements" to become "Ceiling and Wake Turbulence Requirements."

(2) Revised the requirement for SOIA to a simulator evaluation and/or operational safety assessment to be performed by AFS-400 for each airport where SOIA implementation is requested. Previously a study was required.

o. Paragraph 13.1. Clarified the method to determine the ceiling value and that it is submitted as part of the AAUP for each SOIA approach.

p. Paragraph 13.2. Changed the requirement for when wake turbulence spacing need not be applied. That is now based on a height that provides 30 seconds clear-of-clouds time prior to the DA for the offset approach. That simplifies the calculation by using a constant 450 ft above the DA to represent a typical height loss of an aircraft descending for 30 seconds on the glide slope. The height of the ceiling may be reduced with limits on the categories of users, additional evaluation and/or an operational safety assessment. The previous requirement was for the ceiling to be at least 500 ft above the Minimum Vectoring Altitude (MVA). An example of the benefit of this change is that at San Francisco the ceiling value for SOIA operation is reduced from 2100 down to 1600.

q. Paragraph 14. Added new guidance for developing and evaluating the use of an RNAV (GPS) or RNAV (RNP) AR Approach for SOIA operations. The primary study (with a supplemental memorandum) that supports the use of RNAV (GPS) and RNAV (RNP) AR is DOT-FAA-AFS-450-56, titled "Safety Study Report on Simultaneous Parallel Instrument Landing System (ILS) and Area Navigation (RNAV) or Required Navigation Performance (RNP) Approaches—Phases 3 and 4", dated July 2010.

r. Paragraph 15. Added new guidance with a summary of the combinations of SOIA approach lines of minima that are allowed by the previous paragraphs in the order.

s. Appendix 1. Updated references for AFS-440 to AFS-450, corrected paragraph references, and changed the reference to Order 7110.112, titled "Simultaneous ILS/MLS Blunder Data Collection," which is under consideration to be replaced/canceled, to be "current air traffic guidance on blunder data collection."

t. Appendix 2.

(1) Changed the titles in the examples to be "Attention All Users Page (AAUP)"

(2) Updated the examples for the AAUP to no longer include an instruction to contact the FAA Command Center when pilots are unable to participate in SOIA. The Air Route Traffic Control Center remains as a point of contact. This contact information is moved from the top of the page to the bottom.

(3) Added a statement regarding glide path navigation.

(4) Clarified the instruction for the visual segment of the LDA precision runway monitor (PRM), or other offset approach, to indicate "landing runway" instead of just "runway."

(5) Added an AAUP example for RNAV (GPS) offset course approach and for RNAV (GPS) straight-in course approach.

(6) Updated the content of the note for AAUP preparation to clarify to which office (AFS-410) to submit the AAUP.

PAGE CHANGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
5 thru 8	06/23/06	5 thru 14	11/09/12
Appendix 1, pages 3 and 4	06/23/06	Appendix 1, pages 3 and 4	11/09/12
Appendix 2, pages 3 thru 6	06/23/06	Appendix 2, pages 3 thru 8	11/09/12

John M. Allen
Director, Flight Standards Service

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ORDER 8260.49A

Effective Date:
6/23/06

SUBJ: SIMULTANEOUS OFFSET INSTRUMENT APPROACH (SOIA)

1.0 PURPOSE.

This order provides criteria and guidance for constructing and operating simultaneous offset instrument approaches to parallel runways spaced at least 750 ft apart, and less than 3,000 ft apart at airports identified by the FAA for SOIA. This order establishes criteria for conducting closely spaced parallel operations, and identifies procedural requirements to ensure safety. Implementation of SOIA procedures requires additional analysis and study at most locations. Specific aircraft handling procedures used to implement the operational objectives described in this order are the responsibility of the Air Traffic Organization (ATO) and are contained in various ATO directives.

2.0 DISTRIBUTION.

This order is distributed in Washington Headquarters to the branch level in the Offices of Airport Safety and Standards, and Communications, Navigation, and Surveillance Systems, to Air Traffic, Flight Standards, and Airway Facilities Services; to the National Flight Procedures Group, and the Regulatory Standards Division (AMA-200) at the Mike Monroney Aeronautical Center; to the branch level in the regional Flight Standards, Air Traffic, Airway Facilities, and Airports Divisions; special mailing list ZVS-827; and Special Military and Public Addressees.

3.0 CANCELLATION. Order 8260.49, Simultaneous Offset Instrument Approach (SOIA), dated August 8, 2002.

4.0 EFFECTIVE DATE. This guidance will be effective July 14, 2006.

5.0 SOIA CONCEPT.

Optimum airport efficiency and reduced arrival delays, under conditions of restricted ceiling and visibility, can be achieved when it is possible to conduct simultaneous instrument approaches to the lowest applicable minimums. The types of instrument procedures that can be used simultaneously depend upon airport configuration and Air Traffic Control (ATC) system capabilities. Airports with parallel runway centerlines spaced closer than 3,000 ft are not capable of supporting simultaneous, parallel instrument approaches under other criteria. Increased Air Traffic delays occur when weather conditions will not permit simultaneous visual approaches. SOIA consists of simultaneous approaches to parallel runways utilizing a straight-in ILS approach to one runway, and a

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localizer-type directional aid (LDA) with a glide slope instrument approach to the other runway. SOIA approach course separation provides the required close parallel instrument landing system/microwave landing system (ILS/MLS) approach criteria per 8260.3 Volume 3, appendix 3 to the LDA precision runway monitor (PRM) decision altitude (DA). A visual segment for the LDA approach is established between the LDA PRM DA and the runway threshold, permitting aircraft to transition in visual conditions from the LDA course, align with the runway, and be in a stabilized approach configuration by 500 ft above the touchdown zone elevation. Between the LDA PRM DA and the runway threshold, pilots of the LDA aircraft are responsible for visually separating themselves from traffic on the ILS approach. This requires maneuvering the aircraft as necessary to avoid the ILS traffic until landing and applying wake turbulence avoidance procedures and techniques as necessary.

Please note: http://www.faa.gov/education_research/training/prm/. This website provides information relative to conducting closely spaced parallel approaches using the PRM and outlines pilot training requirements for conducting ILS PRM and LDA PRM SOIA approaches. The site includes the FAA training video for PRM and SOIA approaches and a link to the San Francisco (SFO) airport website for their informational video on SOIA.

6.0 EXPLANATION OF CHANGES.

6.0.1 Three paragraphs and appendix 1 have been added – 3.0 Cancellation, 6.0 Explanation of Changes, 7.0 Related Publications, and appendix 1, ATC/Flight Crew Coordination.

6.0.2 **Paragraph 7.0** adds related publications to identify directives that are used as a source of reference in this document.

6.0.3 **Paragraph 8.0** adds definitions for Breakout, Clear-of-Clouds (CC) and Decision Altitude (DA); clarifies information concerning the LDA with glide slope; and provides the most current information on the stabilized approach point (SAP).

6.0.4 **Paragraph 9.0** adds information concerning close parallel instrument landing system/microwave landing system (ILS/MLS) approaches.

6.0.5 **Paragraph 10.0** changes the “General” paragraph to “General Design Characteristics” and provides a more inclusive history of and rationale for more effective guidance for SOIA.

6.0.6 **Paragraph 11.0** establishes a requirement for AFS-440 to conduct a study for each airport where SOIA is implemented (and where applicable). It also more clearly defines the LDA approach ceiling for SOIA operations; clarifies visibility minimums for SOIA operations; adds information concerning ILS and ILS PRM approaches and provides information for FMS capability on approach design considerations; and describes in more detail staggered threshold approaches.

6.0.7 **Paragraph 13.0** establishes a requirement for AFS-440 to conduct a wake turbulence study for each airport where SOIA implementation is requested (and where applicable), and more clearly defines wake turbulence separation between aircraft pairs.

6.0.8 **Appendix 1, ATC/Flight Crew Coordination.** Provides detailed requirements for ATC/flight crew coordination, procedure design, and SOIA implementation.

7.0 **RELATED PUBLICATIONS** (latest editions).

7.0.1 **FAA Order 8260.3,** United States Standard for Terminal Instrument Procedures (TERPS).

7.0.2 **FAA Order 8260.19,** Flight Procedures and Airspace.

7.0.3 **FAA Order 7110.65**, Air Traffic Control.

7.0.4 **FAA Order 7210.3**, Facility Operation and Administration.

7.0.5 **FAA Order 8400.10**, Air Transportation Operations Inspector's Handbook.

8.0 **DEFINITIONS.**

8.0.1 **BREAKOUT.**

An ATC directed "breakout" is defined as a vector off the ILS or LDA approach course in response to another aircraft penetrating the NTZ. All breakouts will be manually flown unless otherwise approved by AFS-200 (AFS-200 must have AFS-400 concurrence to approve breakout in auto modes per Order 8400.10, Volume 3, chapter 1, section 5).

8.0.2 **CLEAR-OF-CLOUDS (CC).**

Time and position where aircraft first operate in visual meteorological conditions (VMC) below the ceiling (as defined by the Aeronautical Information Manual (AIM) 7-1-17).

8.0.3 **DECISION ALTITUDE (DA).**

A specified altitude in reference to mean sea level in an approach with vertical guidance at which a missed approach must be initiated if the required visual references to continue the approach have not been established (see Order 8260.3B, Volume 3, paragraph 1.2.4).

8.0.4 **LDA OFFSET.**

An angular offset of the LDA from the runway extended centerline in a direction away from the no transgression zone (NTZ) that increases the normal operating zone (NOZ) width.

8.0.5 **LOCALIZER-TYPE DIRECTIONAL AID (LDA) WITH GLIDE SLOPE.**

A navigational aid (NAVAID) used for a SOIA operation with the utility and accuracy of an ILS/MLS but does not meet precision alignment criteria. LDA with glide slope provides lateral guidance along the LDA PRM final approach course up to the LDA PRM DA. Vertical guidance is provided to a point near the runway threshold to Category (CAT) I operational standards. Other guidance systems providing the same or greater accuracy of an LDA with glide slope may be employed.

8.0.6 NORMAL OPERATING ZONE (NOZ).

The NOZ is the operating area within which aircraft flight remains during normal independent simultaneous parallel ILS approaches.

8.0.7 NO TRANSGRESSION ZONE (NTZ).

A 2,000-ft wide area, located equidistant between parallel runway final approach courses, in which flight is prohibited during simultaneous operations.

8.0.8 PRECISION RUNWAY MONITOR (PRM).

Provides air traffic controllers with high precision secondary surveillance data for aircraft on final approach to parallel runways that have extended centerlines separated by less than 4,300 ft. High-resolution color monitoring displays are required to present surveillance tracking data to controllers along with detailed maps depicting approaches and no transgression zones.

8.0.9 STABILIZED APPROACH POINT (SAP).

The SAP is an unpublished design point on the LDA glide slope at 500 ft above the touchdown zone elevation, along the extended centerline of the intended landing runway.

8.0.10 VISUAL GLIDE SLOPE INDICATOR (VGSI).

The VGSIs are ground devices that use lights to define a vertical approach path during the final approach to a runway. VGSI facilities provide vertical approach guidance to aircraft during approach to landing by radiating a directional pattern of high intensity focused light beams that indicate a pilot's position relative to the glidepath. The visual signal must consist of not less than two and not more than four colors. Allowable colors are red, green, white, or amber. Color sectors must be distinct and identifiable throughout the horizontal beam width at all intensity settings. Only red is used to indicate the lowest below-path sector of the system. The precision approach path indicator (PAPI) is the International Civil Aviation Organization (ICAO) standard VGSI. The PAPI has a single bar of four light boxes to indicate two sectors of glide slope to accommodate large aircraft. Some airports serving large aircraft have three-bar visual approach slope indicators (VASIs) that provide two visual glide slopes to the same runway.

9.0 CLOSE PARALLEL INSTRUMENT LANDING SYSTEM/MICROWAVE LANDING SYSTEM (ILS/MLS) APPROACHES.

Order 8260.3B, Volume 3, appendix 3 addresses independent approaches to parallel runways served by ILS/MLS when parallel runway spacing is less than 4,300 ft. When the approach courses are parallel, the runway spacing between centerlines can be as close as 3,400 ft provided the NTZ is monitored by a high update rate surveillance system capable of a 1.0 second update interval such as the PRM. The runway centerlines can be as close as 3,000 ft when one of the courses is offset by 2.5-3.0 degrees. Procedure charting/naming for ILS is in accordance with Order 8260.3, Volume 3, appendix 3, paragraph 3.2 (i.e., "ILS PRM Rwy #") for an ILS approach procedure aligned with runway centerline. Use "LDA PRM Rwy #" for the offset course LDA with glide slope approach procedure. For charting/ naming associated non-SOIA approaches, see paragraph 11.3. The use of suffixes in the procedure name is the same as indicated in Order 8260.3. Also see Order 8260.19, chapter 8 for other mandatory charting requirements.

10.0 GENERAL DESIGN CHARACTERISTICS.

At FAA identified airports, SOIA operations are applicable where parallel runway centerlines are at least 750 ft apart and less than 3,000 ft apart. Runways spaced less than 750 ft apart require additional analysis and approval of Flight Standards Service. SOIA incorporates a conventional NTZ design that terminates at the location of the offset course approach DA (see paragraph 10.2) to protect both final approach courses prior to the extended visual segment. SOIA requires ATC to use PRM or other high update rate surveillance systems capable of 1.0-second update interval to monitor both aircraft.

ILS, LDA with glide slope, RNAV (GPS) and RNAV (RNP) AR approaches must be designed to the current criteria for that type of navigation with the exceptions that are stated in this order.

SOIA operations consist of two approaches: a straight-in approach and an offset course approach.

10.1 STRAIGHT-IN APPROACH DESIGN.

The straight-in approach must be an ILS PRM, RNAV (GPS) PRM or RNAV (RNP) PRM. The final approach course must be aligned with the extended runway centerline.

10.2 OFFSET COURSE APPROACH DESIGN.

The offset course approach must be an LDA PRM, RNAV (GPS) PRM or RNAV (RNP) PRM. The minimum distance between the straight-in approach course and the DA for the offset course is 3,000 ft. See the figure in appendix 2 for a depiction of the SOIA geometry. The offset angle is a **minimum of 2.5 degrees and maximum of 3.0 degrees.** The lowest SOIA ceiling and visibility minimums are achieved when the offset course DA is spaced at or close to the minimum distance of 3,000 ft from the straight-in approach course.

10.2.1 **Determine the published DA for the offset course approach** using inputs from the AFS-450 automated analysis and using the TERPS evaluation steps described below. The AFS-450 automated analysis, also called "SOIA Design Program" is performed by the Flight Systems Laboratory Branch (AFS-450). Also see paragraph 10.3.

Determine the published DA, for the offset course approach, as follows:

STEP 1: Mark the DA as a Distance Measuring Equipment (DME) fix, and/or waypoint based on the distance specified by the AFS-450 automated analysis (see paragraphs 11 and 12). Note the altitude, height, and the MAP-to-threshold distance.

STEP 2: Evaluate the TERPS final and missed approach segments using the DA from Step One. If any surface is penetrated, resubmit the procedure for further analysis by AFS-450 and notify them of the required DA adjustment.

NOTE: Procedural amendments to the SOIA offset course PRM approach (or associated non-SOIA approach) modifying course, revising MAP location, or changing DA/visibility shall be resubmitted for an updated automated analysis.

STEP 3: Use the DA that is the higher of the values derived from the AFS-450 automated analysis or the TERPS obstacle evaluation, as described in steps one and two. Submit the DA (rounded to the upper one foot increment) for publication on the SOIA offset course PRM approach and if there is an associated non-SOIA approach, for that approach also.

10.2.2 **The offset** final approach course is exempt from the requirement to intercept the runway extended centerline prior to the landing threshold.

10.2.3 **The offset course approach design includes a SAP** (see paragraph 8.0.9).

10.2.4 **The offset course approach includes a segment to allow maneuvering** from the offset course DA to intercept the extended centerline of the landing runway.

10.2.5 **Identify the offset course approach PRM DA** by a DME fix and/or a waypoint.

10.2.6 **The offset course approach PRM DA** must be within the operational coverage of the VGSI (see paragraph 11.5).

10.3 SOIA SITE IMPLEMENTATION TEAM.

10.3.1 At locations that propose the use of SOIA, a SOIA Site Implementation Team is normally established to work through the issues of establishing the approach procedures. The team is made up of FAA and industry members and the leadership of the team is as designated by air traffic.

10.3.2 If no Team is established, the FAA facility that controls the airspace in which the approaches are to be conducted is responsible for the functions/tasks of the team.

10.3.3 The tasks of the Team (or ATC facility if no Team is established) also include:

10.3.3 a. Request the SOIA automated analysis; submit a written request to AFS-400.

10.3.3 b. Develop an Attention All Users Page (AAUP). See paragraphs 10.4, 11, 13 and appendix 2.

10.4 ATTENTION ALL USERS PAGE.

For SOIA approaches, an AAUP must be published to present to the flight crew the various procedures that must be used when conducting the approach, in a form that may be reviewed prior to conducting the procedure. It is important that the AAUP be coordinated with the publication of the instrument approach procedure for which it was developed. Where practical, a single AAUP should be developed for all SOIA approaches to the same runway. Do not combine the AAUP for straight-in approaches with offset approaches because the aircrew instructions are different. The Site Implementation Team must develop the AAUP and submit it, in a format similar to what is intended to be published, through channels as applicable to AFS-410 for Flight Standards approval. Further processing for publication of the AAUP is as determined jointly by AFS-410 and AeroNav Products.

NOTE: Currently, AFS-410 submits the AAUP to AeroNav Products for publication; however, there are plans to change this process in the near future.

11.0 PROCEDURE CONSTRUCTION.

Use the FAA AFS-450 SOIA Design Program to design the offset course approach (see paragraph 10.3 and appendix 1). Components of SOIA operations: The SOIA Design Program determines the approach geometry based on a nominal bank angle of 15 degrees, roll-in/roll-out rates of nominally 3 degrees per second, and airspeeds defined by Title 14 Code of Federal Regulations (14 CFR) Part 97 aircraft approach category, converted to True Airspeed. The angle of intercept of the offset course approach runway extended centerline is determined by the top-of-category approach speed for the highest category of aircraft certified to fly the approach and the distance between the parallel runways. The angle of intercept will be limited so that in case an aircraft does not begin its intercept turn until crossing the extended centerline, it must not fly closer than 400 ft to the straight-in final approach course. Roll-in rates of up to 5 degrees per second and bank angles of 25 degrees may be used to determine the realignment flight track. The SOIA Design Program will provide the location of the offset course approach PRM DA.

11.1 CEILING FOR SOIA OPERATIONS. See paragraph 13.

11.2 VISIBILITY MINIMUMS FOR SOIA OPERATIONS.

11.2.1 Determine the visibility for the offset course approach procedure using Order 8260.3, Volume 1, chapter 3. Note that the distance from the DA to the runway threshold is typically the item that limits the visibility value.

11.2.2 Determine the visibility for the straight-in approach procedure using Order 8260.3, Volume 1, chapter 3.

11.2.3 The visibility minimum for conducting SOIA operations will be equal to the higher of the visibility values for the two SOIA approaches. The SOIA Site

Implementation Team will include this value as part of the **AAUP** for each approach (see paragraph 10.4 and appendix 2 for samples of AAUP).

EXAMPLE: The procedure specialist has the output from the SOIA Design Program indicating the distance from the LDA PRM DA to the runway threshold is 20,889 ft. Using Order 8260.3, the visibility to submit for publication on the LDA PRM approach is 4 statute miles (SM) and the visibility for the ILS PRM approach is 2400 RVR. The procedure specialist provides the procedure information to the SOIA Site Implementation Team who takes the higher visibility value (4 in this example) and submits that as part of the AAUP for each of the SOIA approaches as the minimum visibility value for conducting SOIA operations.

11.3 APPROACH DESIGN CONSIDERATIONS.

If an operational advantage can be achieved, the Site Implementation Team or ATC facility may request an additional approach that is identical to the PRM approach except that the notes required for SOIA operations would be removed. This additional approach can be used when simultaneous operations are not being conducted, but when it is desirable to have aircraft established on the PRM approach courses prior to or after a SOIA session.

EXAMPLE: The ATC facility makes a request for the offset LDA PRM RWY 28R approach for SOIA use and an identical (without the simultaneous operation notes) LDA/DME RWY 28R approach for non-SOIA use.

11.3.1 **To be considered identical,** approaches using the same type of navigation (ILS or LDA or RNAV for example), must contain the same fixes, and have the same approach minimums and coincident missed approach procedures. Examples are: RNAV (GPS) PRM Rwy 28L and RNAV (GPS) Rwy 28L.

Approaches that do not meet these criteria are not identical and therefore require the use of a suffix; see Order 8260.3, Volume 1, chapter 1, section 6. Examples are: RNAV (GPS) PRM Y Rwy 24R and RNAV (GPS) Z Rwy 24R.

11.3.2 **When SOIA PRM straight-in approaches are designed to a runway that already has a published approach of the same type,** the optimum method for designing the PRM approach is to use the existing approach of the same type as a template, only adding “PRM” to the name and adding the required briefing strip and chart notes for SOIA operations. For example, an ILS PRM approach for SOIA use is designed identical to the existing ILS approach to runway 28L. Since these approaches are identical, one approach is coded into an FMS; ILS Rwy 28L in the FMS can be used to conduct either the ILS PRM Rwy 28L approach or the ILS Rwy 28L approach.

11.3.3 **When SOIA PRM approaches are designed to a runway that has other approaches** of the same type already published or planned to be published which have different approach courses, fixes, minimums, or missed approaches as compared to the SOIA PRM approach, the SOIA approach is not considered to be identical, and therefore approach suffixes must be used to identify each (non-identical) approach.

EXAMPLE 1: An offset course RNAV (GPS) PRM 28R approach for SOIA is planned. There is, or is planned to be, two published RNAV approaches to runway 28R which are different, for example a straight in approach course compared with the requested offset PRM approach. All RNAV approaches to 28R must then be identified by a suffix (Z, Y, X for example).

EXAMPLE 2: An offset course RNAV approach for SOIA is planned for runway 24R and there is no other RNAV (GPS) approach, either existing or planned, to runway 24R. The SOIA offset approach is identified as RNAV (GPS) PRM RWY 24R. The identical non-SOIA approach is identified as RNAV (GPS) RWY 24R. Since these approaches are identical, there is no suffix in the approach name.

EXAMPLE 3: A straight-in RNAV (GPS) PRM approach for SOIA is planned for runway 28L. The existing RNAV (GPS) Rwy 28L approach will be used as the template to produce the RNAV (GPS) PRM Rwy 28L approach for SOIA. Since the existing approach and the new SOIA approach to Runway 28L will be identical, there is no need to employ suffixes in the approach name.

11.3.4 **The responsibility of AeroNav Products,** when a request is received for identical (SOIA and non-SOIA) approaches, is to use the current criteria for that type of approach with the exceptions indicated in this order. The additional (non-SOIA) approach(es) would not have “PRM” in the identification and not have the SOIA related simultaneous operation notes.

11.4 STAGGERED THRESHOLD APPROACH DESIGN.

Where there is a stagger between the arrival thresholds on runways separated by less than 2,500 ft, construct the offset course approach to the runway with the far threshold as depicted in figure 1. The offset course approach glide slope angle must be equal to or greater than the straight-in approach glide slope angle.

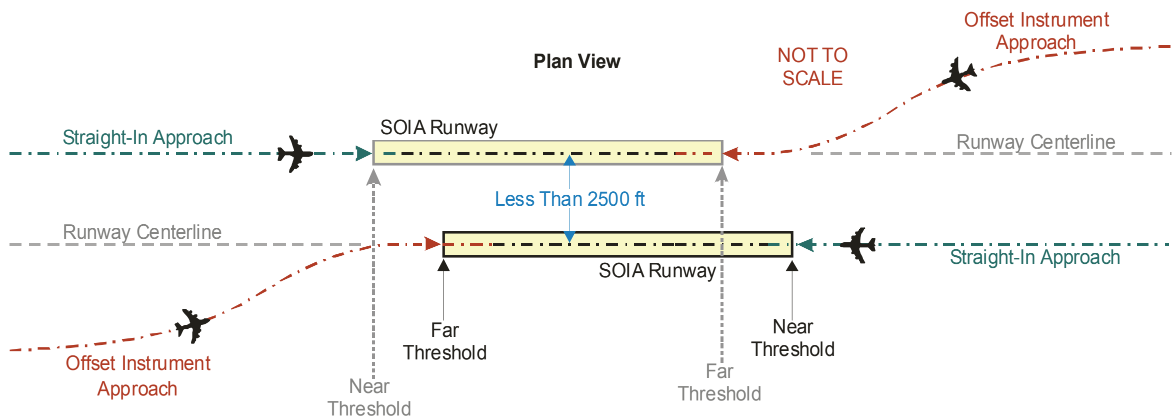
If an exception to this paragraph is needed for site specific circumstances, the SOIA Site Implementation Team must coordinate with Flight Standards and submit an explanation of the situation to the Flight Operations Branch (AFS-410).

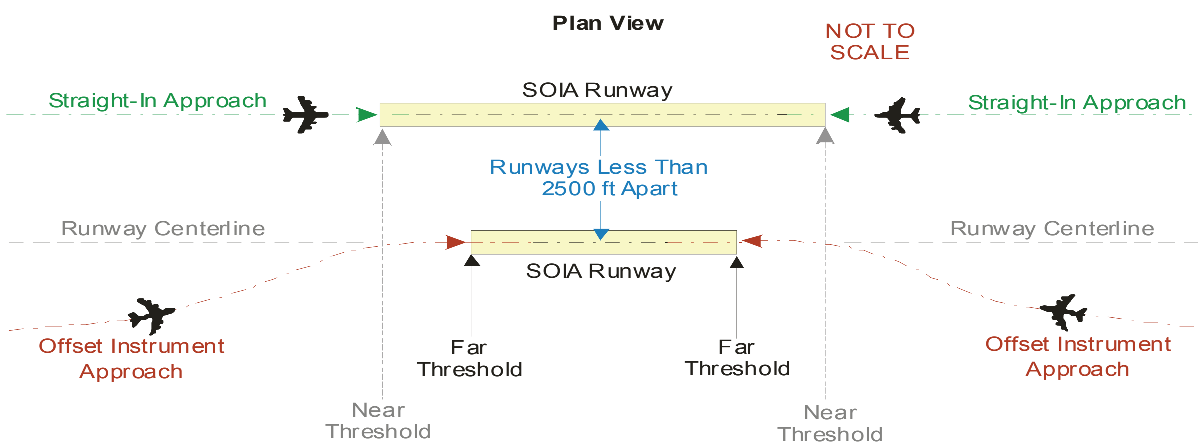
NOTE 1: The intention of this paragraph is to help with wake turbulence mitigation.

NOTE 2: The terms “far” and “near” are from the approaching aircraft’s point of view.

NOTE 3: For runways separated by 2,500 ft or more, the design to the far or near threshold is optional. For the offset course approach, the SOIA Site Implementation Team *should consider that there may be a benefit to wake turbulence mitigation of using the far threshold and that there may be a benefit to flyability of using the near threshold which first comes in to view.*

Figure 1. Examples of SOIA Design with Staggered Thresholds





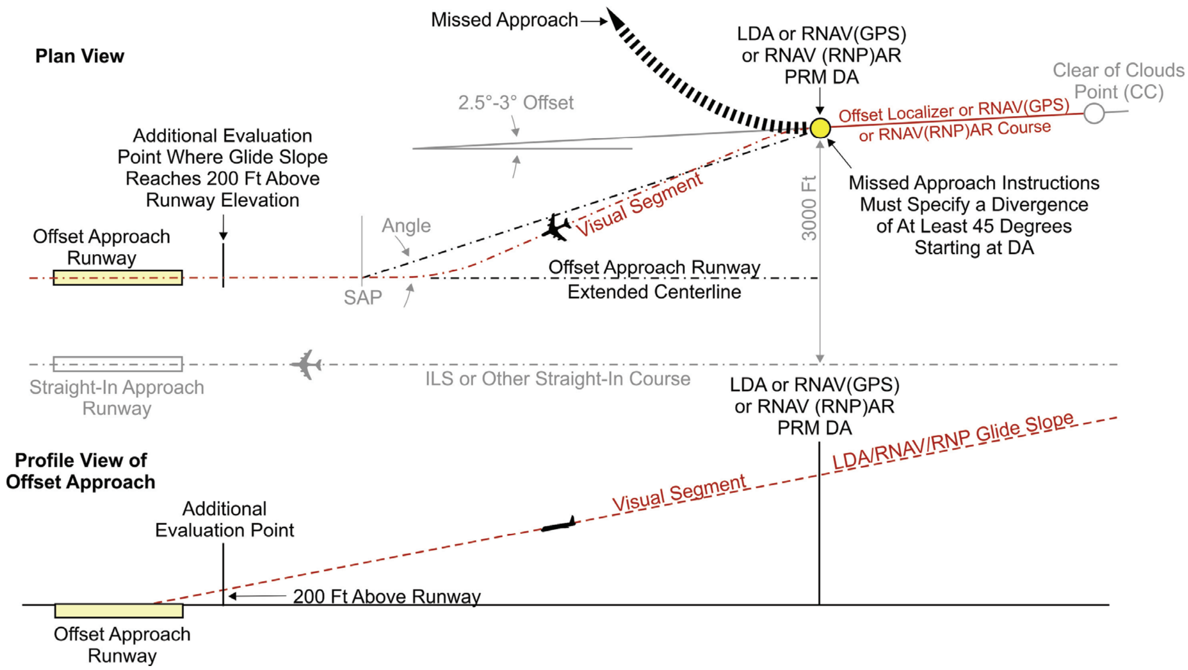
11.5 VISUAL SEGMENT.

When evaluating the visual segment as required by Order 8260.3, Volume 1, paragraph 3.3.2c, extend the visual portion to the DA for the offset course approach.

12.0 MISSED APPROACH.

12.0.1 The offset course approach missed approach instructions must specify a turn at the DA. The missed approach section 2 initial and subsequent course/heading must diverge by a minimum of 45 degrees from the adjacent (straight-in) final approach course extended. See figure 2. The 45-degree divergence is required until other separation can be applied. Use the current TERPS evaluation for the offset course type of approach navigation with a turning missed approach.

Figure 2. Missed Approach Evaluation



12.0.2 In addition to the evaluation beginning at the DA (see paragraph 10.2), evaluate an additional missed approach segment from a point on the offset course approach runway's extended centerline at a height of 200 ft above the runway threshold to determine the impact of obstacles on a go-around executed past the MAP (Offset Course Approach DA). For the additional missed approach segment, evaluate an ILS approach DA that is on runway centerline at 200 feet above the landing threshold point (LTP). Apply the current missed approach TERPS criteria for an ILS approach with a turning missed approach; use the same missed approach heading/course as is used for the published missed approach (the missed approach at the MAP). See figure 2.

Exceptions: If the additional missed approach surface is penetrated, no DA adjustment calculations are required and no additional AFS-450 automated analysis is needed and no additional lines of minima are required based on this additional missed approach analysis. Instead, calculate the required climb gradient using the current TERPS criteria for an ILS missed approach.

If applicable, specify a climb gradient using the format as follows:

CHART NOTE: "If go around executed after passing [FIX NAME of DA], go around requires minimum climb of [Number] feet per NM to [Altitude]."

13.0 CEILING AND WAKE TURBULENCE REQUIREMENTS.

Wake turbulence mitigation techniques employed will be based on each airport's specific runway geometry and meteorological conditions. Established pilot wake turbulence avoidance procedures will also be considered. A specific wake turbulence simulator evaluation and/or operational safety assessment must be performed by AFS-400 for each airport where SOIA implementation is requested. Additionally, if future runway construction changes the relationship of the runways previously approved for SOIA operations, AFS-400 must conduct a supplemental wake analysis.

13.1 CEILING FOR SOIA OPERATIONS.

The ceiling for SOIA operations is initially set at 450 ft above the DA for the offset course (and then rounded upward to the next 100-ft increment) and that value is used for further evaluation. Then, based on the results of the flight simulator operational evaluation and/or operational safety assessment and inputs from operations and from ATC, the SOIA Site Implementation Team modifies the ceiling value as necessary. The optimum design, when runway centerlines are less than 2,500 ft apart, is to have the ceiling value high enough to not require ATC wake turbulence spacing within the pairs. After any necessary modifications, the ceiling for SOIA operations is submitted as part of the AAUP for each approach; it is not submitted on form 8260-3. See appendix 1 for additional information on SOIA design concepts and appendix 2 for examples of the AAUP.

13.2 WAKE TURBULENCE CONSIDERATION.

For SOIA runway centerlines less than 2,500 ft apart, the wake turbulence spacing as described in Order JO 7110.65, paragraph 5-5-4, MINIMA, need not be applied within the pairs, if the ceiling for SOIA operations is at least 450 ft above the DA and if the AFS-400 flight simulator operational evaluation and/or operational safety assessment is acceptable. Otherwise, the wake turbulence spacing as described in Order JO 7110.65, paragraph 5-5-4, MINIMA, must be applied within the pairs. ATC must issue all wake turbulence advisories when applicable. Separation between the pairs, normally applied between the trailing aircraft on the **offset course** approach (for example LDA) in the leading pair and the leading aircraft on the **straight-in** approach (for example ILS) in the subsequent pair, must meet the requirements for standard radar separation unless other approved methods of separation can be applied. Additionally, separation minima in paragraph 5-5-4 of Order JO 7110.65 regarding wake turbulence must be applied as follows: (1) between the **straight-in** approach (for example ILS) aircraft in the leading SOIA pair and either aircraft in the subsequent SOIA pair as required by paragraph 5-5-4 and (2) between the **offset course** approach (for example LDA) aircraft in the leading SOIA pair and either aircraft in the subsequent SOIA pair, as required by paragraph 5-5-4 and the SOIA paragraph (currently paragraph 5-9-9).

NOTE 1: When SOIA runway centerlines are at least 2,500 ft apart, there are no wake turbulence requirements between aircraft on adjacent final approach courses. See FAA Order JO 7100.65.

NOTE 2: The height of 450 ft above the DA provides at least 30 seconds clear of cloud time for all aircraft through Category D. Thirty seconds has been shown to be sufficient for pilots to visually acquire the preceding *(straight-in) aircraft prior to reaching the offset course approach DA and prepare to implement a wake avoidance strategy if deemed necessary. The 450 ft height may be reduced, after review by AFS-410, to a height that provides 30 seconds clear of clouds time based on the categories of aircraft authorized for the SOIA procedure. For an example, see appendix 1.*

NOTE 3: The ceiling may be less than 450 ft above the DA without applying wake turbulence spacing within the pairs, if acceptable mitigating techniques and operational procedures can be documented or developed and verified by a safety management process that involves a safety risk assessment, stakeholder participation, and monitoring the implemented procedures to ensure the mitigations are effective. This requires AFS-400 approval, which will be based on a flight simulator operational evaluation, review by AFS-400 Aviation Safety Inspector Pilots and/or an operational safety assessment and/or review by the AFS-400 Procedure Review Board. Also, air traffic authorization is required as stated in FAA Order JO 7110.65.

14.0 USE OF AREA NAVIGATION FOR SOIA.

SOIA may be developed using RNAV (GPS) or RNAV (RNP) AR approaches for the straight-in approach and/or the offset course approach. See table 1 for combinations of approach minima that can be used for SOIA. Use current RNAV (GPS) or RNAV (RNP) AR criteria for procedure design. Exception: The offset course extended may intercept the landing runway centerline or extended centerline past the threshold (paragraph 10.2.2). Align the intermediate course with the final approach course (no course change allowed at the PFAF). Vertical guidance is required: use only LPV, LNAV/VNAV, or RNP lines of minima; do not use LP or LNAV lines of minima for SOIA approaches.

14.1 NAVIGATION SYSTEM REQUIREMENTS.

14.1.1 **GPS Required.** GPS availability and inclusion in the aircraft navigation solution is an absolute requirement. The GPS requirement must be in the procedure title for an RNAV (GPS) procedure; GPS REQUIRED is charted on the procedure for an RNAV (RNP) AR procedure. See paragraph 11.3.

14.1.2 **Flight Director (FD) or Autopilot (AP) Required.** Use of flight director or autopilot providing RNAV track guidance is required during SOIA operations.

14.1.3 **Procedure naming** for RNAV (GPS) is “RNAV (GPS) PRM Rwy #” and for RNAV (RNP) AR is “RNAV (RNP) PRM Rwy #.” For the use of suffixes in the procedure name refer to Order 8260.3, Volume 1, chapter 1, section 6.

14.1.4 **Procedure chart notes** for SOIA are specified in Order 8260.19, chapter 8. For RNAV (RNP) AR, notes must include “Authorization Required.”

14.2 ADDITIONAL GUIDANCE AND ASSISTANCE.

Since the use of area navigation is new for SOIA, Flight Standards will provide additional guidance and/or assistance to SOIA requesters and Procedure Specialists on a case-by-case basis.

15.0 LIST OF ALLOWABLE COMBINATIONS FOR SOIA.

The following table summarizes the combinations of SOIA approach lines of minima that are allowed by the previous paragraphs in this order.

Table 1. Allowable Combinations for SOIA

Minima Allowed for Straight-In PRM Approach	Minima Allowed for Offset PRM Approach			
	LDA/GS	LPV	LNAV/VNAV	RNP
ILS	Yes	Yes	Yes	Yes
LPV	Yes	Yes	Yes	Yes
LNAV/VNAV	Yes	Yes	Yes	Yes
RNP	Yes	Yes	Yes	Yes

NOTES:

1. LOC line of minima is not allowed for SOIA.
2. LNAV line of minima (without VNAV guidance) is not allowed for SOIA.
3. LP line of minima is not allowed for SOIA.

16.0 INFORMATION UPDATE.

For your convenience, FAA Form 1320-19, Directive Feedback Information, is included at the end of this order to note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this order. When forwarding your comments to the originating office for consideration, please provide a complete explanation of why the suggested change is necessary.

John M. Allen
Director, Flight Standards Service

APPENDIX 1

OPERATIONAL AND DESIGN CONSIDERATIONS

ATC/FLIGHT CREW COORDINATION

1. When an aircraft is conducting an offset LDA PRM approach simultaneously with the adjacent ILS PRM approach, the LDA PRM flight crews must be advised of traffic on the adjacent approach course. Prior to reaching the LDA PRM DA, the flight crew must: Visually acquire the leading ILS PRM aircraft, broadcast this acquisition to ATC, and establish and maintain visual contact with the landing runway environment. If visual contact of the ILS PRM aircraft or runway environment is lost, a missed approach must be executed. Broadcasting by the LDA PRM aircraft that the ILS PRM traffic is in sight indicates that the LDA PRM flight crew has visually acquired the traffic and accepts responsibility for separation and wake turbulence avoidance as applicable. ATC may not respond to this transmission.

2. Pilots accepting a clearance for an LDA PRM approach will remain on the LDA course until passing the LDA PRM DA.

3. The LDA PRM aircraft must be positioned by ATC so as to facilitate the LDA flight crew's ability to visually acquire and keep the ILS PRM traffic in sight from the clear-of-clouds (CC) point until landing.

4. During SOIA operations, the LDA PRM aircraft should be the trailing aircraft prior to exiting the overcast, and must be in the trailing position prior to reaching the LDA PRM DA. Aircraft may pass each other as necessary prior to this point as instructed by ATC to achieve the required spacing**.**

5. Pilot responsibilities must be specified in procedural notes on the SOIA LDA PRM and ILS PRM approach Chart, <u>Attention All Users Page,</u> or by other means approved by Flight Standards Service.

NOTE: For additional information regarding SOIA operations, refer to the Aeronautical Information manual (AIM), page 5-4-16, Simultaneous Close Parallel ILS PRM Approaches (Independent) and Simultaneous Offset Instrument Approaches (SOIA).

PROCEDURE DESIGN

1. The AFS-450 SOIA Design Program develops the approach so that there is sufficient time for visual acquisition of the ILS PRM aircraft by the LDA PRM flight crew after their aircraft exits the overcast prior to reaching the LDA PRM DA. Nominally a 30 seconds "clear-of-clouds" time at the highest anticipated approach speed is desirable. For example, if heavy aircraft in Category (CAT) D are authorized for the LDA PRM approach, a ceiling of approximately 450 ft above the LDA PRM DA altitude is considered adequate. Based on 165 knots IAS, the top of CAT D, 450 ft will provide nominally 30 seconds "clear-of-clouds” time. For operations restricted to the use of CAT C aircraft and below (and CAT D regional jets with approach speeds of 145 knots or less), a ceiling of approximately 375 ft above the LDA PRM DA is considered adequate. The aircraft in the highest approach category authorized to conduct the approach will determine the approach geometry. The ceiling required will be determined based on the FAA SOIA design program’s determination of the DA (see paragraph 13). Clear-of-clouds time values may be refined with operational experience and scientific analysis.

2. The approach design must include a minimum straight flight segment of 1,000 ft between the turn at the LDA PRM DA and the turn to intercept the extended runway centerline at the SAP. The FAA computer program will determine the location of the LDA PRM DA.

3. Relative to Flyability. The limiting steady state, direct crosswind component of the reported airport surface wind is 10 knots for runways spaced 750 ft apart, increasing by one knot for each additional 75 ft of centerline separation to a maximum of 15 knots (when centerline spacing is at least 1,125 ft). These requirements may be refined based on operational experience and scientific analysis. In addition, these values and their application may be further modified by the FAA wake turbulence study required for each SOIA.

SOIA IMPLEMENTATION

The implementation process must include:

1. A national effort by Flight Standards to monitor the operational integrity of SOIA procedures at each site, evaluate PRM-SOIA requirements to ensure consistency with existing standards, and oversight and review of issues raised by local site implementation teams. Flight standards will ensure SOIA operations meet validation testing compliance standards per FAA Order 8900.1.

2. Establishment of a simultaneous instrument approach data collection effort in concert with Air Traffic, as provided by the current air traffic guidance on blunder data collection.

3. Establishment of a local implementation process (lead by the SOIA Site Implementation Team or the air traffic facility as described in paragraph 10.3) at each SOIA site to assist throughout the SOIA development process, evaluate and provide support to Flight Standards, Air Traffic and Air Operator Training issues, monitor local operational integrity issues, and to report/refer issues for national consideration as appropriate. Consult Order 8260.43, Flight Procedures Management Program, paragraph 7 for core membership and other aviation participants who should be included in this process.

APPENDIX 2

SAMPLES

OF

PILOT BRIEFING PAGES

AND A

DEPICTION OF SOIA GEOMETRY

LDA PRM RWY XXX **Airport Name (ID)**
(SIMULTANEOUS CLOSE PARALLEL) **City, State**

ATTENTION ALL USERS PAGE (AAUP)

Condensed Briefing Points:

- When instructed, immediately switch to tower frequency and select the monitor frequency audio.
- Report the ILS traffic in sight as soon as practical and prior to (name of LDA PRM DA). DO NOT PASS.
- Remain on the LDA until reaching (name of LDA PRM DA) so as not to penetrate the NTZ.

1. ATIS. The ATIS will broadcast that simultaneous ILS PRM and LDA PRM approaches are in progress. Simultaneous parallel approaches will only be offered/conducted when the weather is at least X, XXX feet (ceiling), and x miles (visibility).*

*When an LDA/DME approach is also published and that approach is identical as specified in paragraph 11.3, the ATIS portion of the AAUP must be modified as follows:

1. ATIS. When the ATIS broadcast advises that simultaneous ILS PRM and LDA PRM approaches are in progress, pilots should brief to fly the LDA PRM approach. If later advised to expect an LDA/DME approach, the LDA PRM chart may be used after completing the following briefing items:

(a) Minimums and missed approach procedures are unchanged,
(b) Monitor frequency no longer required, and
(c) A lower glide slope intercept altitude may be assigned when advised to expect the LDA (Rwy number) approach.

2. Dual VHF Communication Required. To avoid blocked transmissions, each runway will have two frequencies: a primary and a monitor frequency. The tower controller will transmit on both frequencies. The monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the tower controller's frequency, but will listen to both frequencies. Select the monitor frequency audio only when instructed by approach to contact the tower. The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked.

3. All Breakouts are to be hand flown to assure that the maneuver is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

(a) ATC Directed Breakouts: ATC directed breakouts would consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1,000 ft obstruction clearance. The MVA in the final approach segment is X,XXX ft at (Airport Name).

(b) Phraseology - TRAFFIC ALERT: If an aircraft enters the "NO TRANSGRESSION ZONE (NTZ)," the controllers will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

"TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude)."

4. Glide Path Navigation: Descending on the glide path ensures compliance with any charted crossing restrictions.

5. (Airport Name) Visual Segment. If ATC advises that there is traffic on the (runway number) ILS, pilots are authorized to continue past the LDA PRM (runway number) DA to align with runway (runway number) centerline only when:

(a) The ILS traffic is in sight and is expected to remain in sight,
(b) Pilots have advised ATC that "traffic is in sight." (ATC need not acknowledge this transmission), and
(c) The landing runway environment is in sight.

Otherwise, a missed approach must be executed no later than the LDA PRM DA. Between the LDA PRM DA and the runway threshold, pilots are responsible for separating themselves visually from the traffic on the ILS approach, which means maneuvering the aircraft as necessary to avoid the ILS traffic until landing (do not pass), and providing wake turbulence avoidance, if applicable. If visual contact with the ILS traffic is lost, advise ATC as soon as practical, and execute a missed approach unless otherwise instructed by ATC.

Special pilot training required. Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ARTCC as soon as practical, but at least 100 miles from destination.

Note for AAUP preparation:

Make changes to these examples to address site-specific issues. AAUP must be approved by Flight Standards; submit requested AAUP to the Flight Operations Branch, AFS-410.

ILS PRM RWY XXX **Airport Name (ID)**
(SIMULTANEOUS CLOSE PARALLEL) **City, State**

ATTENTION ALL USERS PAGE (AAUP)

Condensed Briefing Point:

- When instructed, immediately switch to the tower frequency and select the monitor frequency audio.

1. ATIS. When the ATIS broadcast advises that simultaneous ILS PRM and LDA PRM approaches are in progress, pilots should brief to fly the ILS/PRM. If later advised to expect an ILS approach, the ILS PRM chart may be used after completing the following briefing items:

(a) Minimums and missed approach procedures are unchanged,
(b) Monitor frequency no longer required, and
(c) A lower glide path intercept altitude may be assigned when advised to expect the ILS (Rwy number) approach.

Simultaneous parallel approaches will only be offered/conducted when the weather is at least X,XXX ft (ceiling), and x miles (visibility).

2. Dual VHF Communication required. To avoid blocked transmissions, each runway will have two frequencies: a primary and a monitor frequency. The tower controller will transmit on both frequencies. The monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the tower controller's frequency, but will listen to both frequencies. Select the monitor frequency audio only when instructed by approach to contact the tower. The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked.

3. All Breakouts are to be hand flown to assure that the maneuver is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

(a) ATC Directed Breakouts: ATC directed breakouts would consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1,000 ft required obstruction clearance. The MVA in the final approach segment is X,XXX feet at (Airport Name).

(b) Phraseology - TRAFFIC ALERT: If an aircraft enters the "NO TRANSGRESSION ZONE (NTZ)," the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

"TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude)."

4. Glide Path Navigation: Descending on (not above) the glide path ensures compliance with any charted crossing restrictions and assists traffic approaching runway (Other Rwy number) to mitigate possible wake turbulence encounters without destabilizing the runway (Other Rwy number) approach and creating a go-around.

5. LDA Traffic: While conducting the ILS PRM approach to runway (Rwy number), other aircraft may be conducting the Offset LDA PRM approach to runway (LDA Rwy number). These aircraft will approach from the (insert left or right)-rear and will re-align with (LDA runway number) after making visual contact with the ILS traffic.

Special pilot training required. Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ARTCC as soon as practical, but at least 100 miles from destination

Note for AAUP preparation: Make changes to these examples to address site-specific issues. AAUP must be approved by Flight Standards; submit requested AAUP to the Flight Operations Branch, AFS-410.

LDA PRM RWY [#] and RNAV (GPS) [suffix if required] PRM RWY [#] (SIMULTANEOUS CLOSE PARALLEL)

**Airport Name (ID)
City, State**

ATTENTION ALL USERS PAGE (AAUP)

Condensed Briefing Points:

- If required, develop a wake mitigation strategy as soon as practical. After passing [DA NAME], pilots will be operating in close proximity to the aircraft approaching runway [#] and will be responsible for wake turbulence avoidance.
- Listen to the PRM monitor (frequency XXX.XX) when communicating with the [ATC FACILITY] (frequency XXX.XX), [OR OTHER Procedure].
- Report the runway (#) traffic in sight as soon as practical and prior to [DA NAME]. DO NOT PASS.
- Remain on the LDA or RNAV (GPS) lateral course until passing [DA NAME] so as not to penetrate the NTZ
- [ANY OTHER PROCEDURES]

1. ATIS. When the ATIS broadcast advises that simultaneous ILS PRM and LDA PRM or RNAV (GPS) PRM approaches are in progress, pilots should brief to fly the LDA PRM or RNAV (GPS) PRM [RUNWAY #] approach. If later advised to expect an LDA DME or RNAV (GPS) [RUNWAY #] approach, the LDA PRM or RNAV (GPS) PRM [RUNWAY #] chart may be used after completing the following briefing items:

(a) Minimums and missed approach procedures are unchanged.

(b) Monitor frequency no longer required.

(c) A different glidepath intercept altitude may be assigned when advised to expect LDA DME or RNAV (GPS) [RUNWAY #] approach.

Simultaneous parallel approaches will only be offered/conducted when the weather is at least X,XXX ft (ceiling) and X miles (visibility).

2. Dual VHF Communication required. To avoid blocked transmissions, each runway will have two frequencies, a primary and a PRM monitor frequency. The [ATC FACILITY] controller will transmit on both frequencies. The PRM Monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the [ATC FACILITY] controller's frequency (XXX.XX), but will listen to both frequencies. Select the PRM monitor frequency audio only when in contact with the [ATC FACILITY] controller (XXX.XX). The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked. If executing a missed approach at [DA NAME], begin the [RIGHT/LEFT] turn as soon as practical.

3. All "Breakouts" are to be hand flown to assure that the maneuver is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

(a) ATC Directed "Breakouts:" ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1,000 ft required obstruction clearance.

(b) Phraseology - "TRAFFIC ALERT:" If an aircraft enters the "NO TRANSGRESSION ZONE (NTZ)," the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

"TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude)."

4. Glidepath Navigation: Descending on the glidepath ensures compliance with any charted crossing restrictions.

5. [Airport code] LDA / RNAV (GPS) Visual Segment. If ATC advises that there is traffic approaching runway [#], pilots are authorized to continue past [DA NAME] to align with runway [#] centerline only when:

(a) The runway [#] traffic is in sight and is expected to remain in sight,

(b) ATC has been advised that "traffic is in sight." (ATC is not required to acknowledge this transmission.)

(c) The landing runway environment is in sight.

Otherwise, a missed approach must be executed at [DA NAME]. Between [DA NAME] and the runway threshold, pilots of the LDA or RNAV (GPS) aircraft are responsible for separating themselves visually from traffic approaching runway [#], which means maneuvering the aircraft as necessary to avoid the runway [#] traffic until landing (do not pass), and providing wake turbulence avoidance, as applicable. If visual contact with the runway [#] traffic is lost, advise ATC as soon as practical and execute the published missed approach unless otherwise instructed by ATC.

Special pilot training required. Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ARTCC as soon as practical, but at least 100 miles from destination.

Note for AAUP preparation: Make changes to these examples to address site-specific issues. AAUP must be approved by Flight Standards; submit requested AAUP to the Flight Operations Branch, AFS-410.

ILS PRM RWY [#] and RNAV (GPS) PRM RWY [#] (SIMULTANEOUS CLOSE PARALLEL)

AIRPORT (ID)
City, State

ATTENTION ALL USERS PAGE (AAUP)

Condensed Briefing Points:

- Listen to the PRM monitor (frequency XXX.XX) when communicating with the (ATC facility) (frequency XXX), (or other procedure).
- [ANY OTHER PROCEDURES]

1. ATIS. When the ATIS broadcast advises that simultaneous ILS PRM or RNAV (GPS) PRM and LDA PRM approaches are in progress, pilots should brief to fly the ILS PRM or RNAV (GPS) PRM [RUNWAY #] approach. If later advised to expect an ILS or RNAV (GPS) [RUNWAY #] approach, the ILS PRM or RNAV (GPS) PRM [RUNWAY #] chart may be used after completing the following briefing items:

(a) Minimums and missed approach procedures are unchanged.
(b) Monitor frequency no longer required.
(c) A different glidepath intercept altitude may be assigned when advised to expect ILS or RNAV (GPS) [RUNWAY #] approach.

Simultaneous parallel approaches will only be offered/conducted when the weather is at least XXX feet (ceiling) and X miles (visibility).

2. Dual VHF Communication required. To avoid blocked transmissions, each runway will have two frequencies, a primary and a PRM monitor frequency. The [ATC FACILITY] controller will transmit on both frequencies. The PRM Monitor controller's transmissions, if needed, will override both frequencies. Pilots will ONLY transmit on the [ATC FACILITY] controller’s frequency (XXX.XX), but will listen to both frequencies. Select the PRM monitor frequency audio only when in contact with the [ATC FACILITY] controller (XXX.XX). The volume levels should be set about the same on both radios so that the pilots will be able to hear transmissions on at least one frequency if the other is blocked. [ANY OTHER PROCEDURES].

3. All "Breakouts" are to be hand flown to assure that the maneuver is accomplished in the shortest amount of time. Pilots, when directed by ATC to break off an approach, must assume that an aircraft is blundering toward their course and a breakout must be initiated immediately.

(a) ATC Directed "Breakouts:" ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available, but in no case will the descent be below minimum vectoring altitude (MVA) which provides at least 1,000 ft required obstruction clearance.

(b) Phraseology - "TRAFFIC ALERT:" If an aircraft enters the "NO TRANSGRESSION ZONE (NTZ)," the controller will breakout the threatened aircraft on the adjacent approach. The phraseology for the breakout will be:

“TRAFFIC ALERT, (aircraft call sign) TURN (left/right) IMMEDIATELY, HEADING (degrees), CLIMB/DESCEND AND MAINTAIN (altitude).”

4. Glidepath Navigation: Descending on (not above) the glidepath ensures compliance with any charted crossing restrictions and assists traffic approaching runway [#] to mitigate possible wake turbulence encounters without destabilizing the runway [#] approach and creating a go-around.

5. Runway (#) traffic. While conducting this ILS PRM or RNAV (GPS) PRM approach to runway [#], other aircraft may be conducting the offset LDA PRM or RNAV (GPS) PRM approach to runway [#]. These aircraft will approach from the [RIGHT-LEFT] rear and will re-align with runway [#] after making visual contact with the ILS or RNAV GPS runway [#] traffic.

Special pilot training required. Pilots who are unable to participate will be afforded appropriate arrival services as operational conditions permit and must notify the controlling ARTCC as soon as practical, but at least 100 miles from destination.

Note for AAUP preparation: Make changes to these examples to address site-specific issues. AAUP must be approved by Flight Standards; submit requested AAUP to the Flight Operations Branch, AFS-410.

NOTE #1

For SOIA (Other than LDA) AAUPs: When an approach that is identical to the SOIA approach is also published, the ATIS portion of the AAUP must be modified as follows:

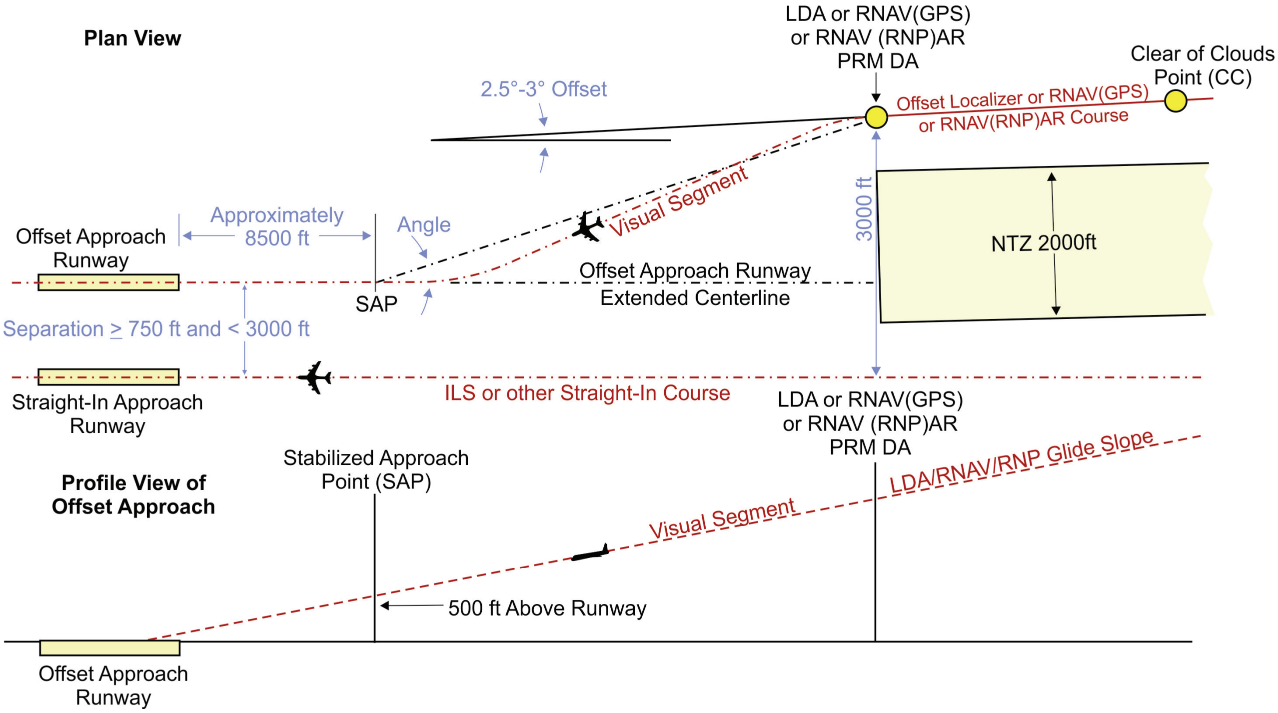
1. ATIS. When the ATIS broadcast advises that simultaneous [type(s)] approaches are in progress, pilots should brief to fly the [SOIA PRM approach procedure name] approach. If later advised to expect an [identical non-SOIA approach procedure name] approach, the [SOIA PRM approach procedure name] chart may be used after completing the following briefing items:

- **a. Minimums and missed approach procedures** are unchanged,
- **b. Monitor frequency** no longer required, and
- **c. A lower glide slope intercept altitude** may be assigned when advised to expect the [identical non-SOIA approach procedure name and runway number] approach.

NOTE #2

Changes to the AAUP that address site-specific issues must be approved by Flight Standards.

Figure A2-1. SOIA Geometry



SAP. The SAP is a design point along the extended centerline of the intended landing runway on the glide slope at 500 ft above the runway threshold elevation. It is used to verify a sufficient distance is provided for the visual maneuver after the offset course approach PRM DA to permit the pilots to conform to approved, stabilized approach criteria.

Offset Course PRM DA. The point along the LDA, or other offset course, where the course separation with the adjacent ILS, or other straight-in course, reaches 3,000 ft. The altitude of the glide slope at that point determines the offset course approach decision altitude and is where the NTZ terminates. Maneuvering inside the DA is done in visual conditions.

Angle. Angle formed at the intersection of the offset course approach extended runway centerline and a line drawn between the offset course approach DA and the SAP. The size of the angle is determined by the SOIA Design Program, and is dependent on the aircraft approach category and on whether Category D aircraft use the offset course approach and the spacing between the runways.

Visibility. Distance from the offset course approach DA to runway threshold in statute miles.

Procedure. The aircraft on the offset course approach must see the runway-landing environment and, if ATC has advised that traffic on the straight-in approach is a factor, the offset course approach aircraft must visually acquire the straight-in approach aircraft and report it in sight to ATC prior to reaching the offset course approach PRM DA.

CC. Clear of Clouds point.