**ORDER**

**U.S. DEPARTMENT OF TRANSPORTATION**
**FEDERAL AVIATION ADMINISTRATION**

**8260.49**

**8/8/02**

## SUBJ: SIMULTANEOUS OFFSET INSTRUMENT APPROACH (SOIA)

### 1.0 PURPOSE.

This order provides initial criteria and guidance for constructing and operating simultaneous offset instrument approaches to parallel runways spaced at least 750 feet apart, and less than 3,000 feet apart at airports identified by the FAA for SOIA. This order establishes criteria for determining the feasibility of conducting closely spaced parallel operations, and identifies procedural requirements to ensure safety. Implementation of SOIA procedures requires additional analysis and study at most locations. The intent of this order is to establish general guidelines for the safe design and operation of this procedure. Specific aircraft handling procedures used to implement the operational objectives described in this order are the responsibility of Air Traffic and are contained in various Air Traffic 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 Aviation System Standards National Flight Procedures Office (AVN-100) 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 EFFECTIVE DATE. August 23, 2002

### 4.0 BACKGROUND.

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.

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

**Order 8260.3B, United States Standard for Terminal Instrument Procedures (TERPS)**, Volume 3, addresses independent approaches to parallel runways

served by an ILS/MLS. When the approach courses are parallel, the runway spacing between centerlines can be as close as 3,400 feet provided the no transgression zone (NTZ) is monitored by a high update rate surveillance system capable of a 1.0 second update interval such as the Precision Runway Monitor (PRM). The parallel runway centerlines can be as close as 3,000 feet if an offset ILS/MLS of 2.5°-3.0° serves one of the runways. However, there are many airports that have runway centerlines spaced closer than 3,000 feet that are not capable of supporting simultaneous, parallel instrument approaches under existing criteria. Increased delays occur when weather conditions will not permit simultaneous visual approaches.

**4.2 SOIA CONCEPT**.

SOIA refers to simultaneous approaches to a set of parallel runways utilizing a straight-in ILS approach to one runway and a localizer type directional aid (LDA) with a glide slope instrument approach to the other runway. In SOIA, the approach course separation (instead of the runway separation) meets established parallel approach criteria. A visual segment of the LDA approach is established between the LDA missed approach point (MAP) and the runway threshold, permitting aircraft to transition in visual conditions from the LDA course to align with the runway and be stabilized by 500 feet above the touchdown zone elevation. After accepting a clearance for an LDA PRM approach, pilots will remain on the LDA course until passing the LDA MAP prior to alignment with the runway centerline. If ATC advises that there is traffic on the adjacent ILS, pilots are authorized to continue past the LDA MAP to align with runway centerline if 1) the ILS traffic is in sight and is expected to remain in sight, and ATC has been so advised, and 2) the runway environment is in sight. Otherwise, a missed approach must be executed. Between the LDA MAP and the runway threshold, pilots of the LDA aircraft are responsible for separating themselves visually from traffic on the ILS approach, which means maneuvering the aircraft as necessary to avoid the ILS traffic until landing, and providing wake turbulence avoidance, if applicable. Advise ATC, as soon as practical, if visual contact with the ILS traffic is lost and execute a missed approach unless otherwise instructed by ATC. For the purpose of conducting SOIA operations, the LDA aircraft must be the trailing aircraft, unless alternate procedures are approved by Flight Standards as a result of site specific analysis. The trailing aircraft, for the purpose of SOIA, means ATC must position the LDA aircraft so as to facilitate the flight crew's ability to see the ILS traffic from which they must maintain visual separation from the nominal 30 seconds clear-of-clouds point to the LDA MAP.

**4.3 SOIA INITIATIVE.**

The SOIA initiative was developed to reduce delays when weather conditions will not permit visual approaches. This order includes the design and operating criteria for SOIA. Because this is an emerging concept, these criteria are subject to periodic review and revision based on operational experience and scientific analysis.

**4.4 SOIA DEVELOPMENT.**

The SOIA should be developed in cases where simultaneous precision instrument approaches cannot be effectively established (see Orders 8260.3, United States Standard for Terminal Instrument Procedures (TERPS); 7110.98, Simultaneous Converging Instrument Approaches (SCIA); or 7110.110A, Dependent Converging Instrument Approaches (DCIA) with Converging Runway Display Aid (CRDA).

**5.0 DEFINITIONS.**

**5.1 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.

**5.2 LOCALIZER TYPE DIRECTIONAL AID (LDA).**

A navigational aid (NAVAID) used for nonprecision instrument approaches with utility and accuracy comparable to a localizer but which is not a part of a complete ILS and is not aligned with the runway.

**5.3 NORMAL OPERATING ZONE (NOZ).**

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

**5.4 NO TRANSGRESSION ZONE (NTZ).**

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

**5.5 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′. High-resolution color monitoring displays (FMA) are required to present surveillance track data to controllers along with detailed maps depicting approaches and no transgression zones.

**5.6 STABILIZED APPROACH POINT (SAP)**.

The SAP is a design point along the extended centerline of the intended landing runway on the glide slope at 500′ above the GPI. It is used to verify a sufficient distance is provided for the visual maneuver after the missed approach point (MAP) to permit the pilots to conform to approved, stabilized approach criteria.

**5.7 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.

**6.0 GENERAL.**

At FAA identified airports, SOIA operations are applicable where parallel runway centerlines are at least 750′ apart and less than 3,000′ apart.

*NOTE: Runways spaced 700′ apart are SOIA candidates, but would require additional analysis since testing to date was done for 750′ or greater spaced runways.*

**6.0.1** **When an aircraft is conducting an offset LDA approach** simultaneously with the adjacent ILS approach, visual acquisition of the leading ILS aircraft by the LDA aircraft must be established and acknowledged to ATC, and the landing runway environment must be in sight prior to the LDA aircraft reaching the LDA MAP or a missed approach must be executed. Acknowledgement to ATC by the LDA aircraft that the ILS traffic is in sight indicates that the pilot is maintaining visual separation from the ILS aircraft and continuing the approach from the LDA missed approach point to the runway.

**6.0.2** **The lowest possible SOIA ceiling and visibility minimums** are achieved when the LDA MAP is located at the point where the LDA and ILS courses are spaced 3,000′ apart. All SOIA operations have the following characteristics:

**6.0.2** **a. The ILS approach is a conventional straight-in design**.

**6.0.2** **b. The LDA with glide slope approach** consists of the following elements**:**

6.0.2 **b. (1) A MAP that is offset** from the extended centerline of the runway.

6.0.2 **b. (2) An LDA approach course offset** between 2.5° and 3.0° from the adjacent ILS course if the LDA MAP is less than 3,400′ from the ILS course.

*NOTE: The ILS course cannot be offset.*

6.0.2 **b. (3) An approach design that includes a SAP** that provides for stabilized flight by 500′ height above touchdown (HAT) zone elevation.

6.0.2 **b. (4) A visual segment that includes a turn maneuver** from the LDA MAP to intercept the extended centerline of the runway served by the LDA.

6.0.2 **b. (5) Utilization of a glide slope in conjunction with the LDA.** The glide slope must support normal coupled (to the published LDA MAP) and non-coupled (in the visual segment) quality guidance to normal Category I decision altitude of 200′ above the plane containing runway threshold. The glide slope must provide Category I quality guidance to support non-coupled use in the visual segment to a point 100′ above the plane containing the runway threshold.

6.0.2 **b. (6) Utilization of distance measuring equipment (DME)** transmitted on the ILS and LDA frequencies**.**

6.0.2 **b. (7) Utilization of a VGSI** aligned to be visible at the LDA MAP.

6.0.2 **b. (8) Utilization of present FAA criteria** for LDA course width requirements.

6.0.2 **b. (9) The runway environment** must be in sight, and visual acquisition must be established prior to the aircraft continuing beyond the LDA MAP.

**6.1 LDA GOAL.**

The goal of the LDA with glide slope approach procedure using SOIA is to:

**6.1.1** **Achieve an intercept of the extended runway centerline** served by an offset LDA with a minimum intercept angle using a SAP in the approach design.

**6.1.2** **Permit more precise and repeatable navigation and surveillance** on the instrument and visual segments of the approach through the use of vertical visual and electronic guidance.

**6.1.3** **Provide flightcrews with an electronic glide slope** that generates stabilized vertical guidance throughout the approach.

**6.2 SIMULTANEOUS SOIA APPROACH.**

When used simultaneously with an ILS approach to a parallel runway, the SOIA approach:

**6.2.1** **Outside of the LDA MAP**, utilizes approved simultaneous approach criteria appropriate to the course spacing at the LDA MAP. Order 8260.3, Volume 3, appendix 3 applies.

**6.2.2** **Pilots must be advised when traffic** on the adjacent ILS approach course will be a factor.

**6.2.3** **When advised that traffic on the adjacent ILS approach course** must be acquired visually, pilots conducting the LDA approach must take appropriate action to establish visual contact with the ILS aircraft, and acknowledge that fact to ATC. Pilots must have the landing runway environment in sight prior to reaching the LDA missed approach point or execute a missed approach at the MAP. Visual separation applied by controllers from the tower is not allowed.

**6.2.4** **Pilot responsibilities must be specified** in procedural notes on the SOIA LDA and ILS approach plates or by other means approved by Flight Standards

**6.2.5** **Incorporates a conventional NTZ design** that terminates at the location of the LDA MAP to protect both final approach courses prior to the extended visual segment.

**6.2.6** **Requires ATC to have the use of PRM** or other high update rate surveillance system capable of 1.0 second update interval.

**6.2.7** **Requires ATC to position the aircraft on the LDA** to trail the aircraft on the straight-in ILS approach.

## 7.0 NAVIGATIONAL AIDS (NAVAIDs).

Electronic NAVAIDs providing vertical and lateral guidance along the final approach course up to the LDA MAP and vertical guidance to Category I standards must serve the LDA approach. Precise lateral and vertical guidance must be available to the aircraft executing the SOIA LDA approach and the ILS approach. This may be in the form of an offset LDA with the glide slope serving one runway and standard ILS serving the adjacent runway. Other certified systems providing the same or greater navigational accuracy and approved for simultaneous parallel approaches may be used as an alternative to the ILS/MLS and LDA guidance. DME will be provided on both the ILS and LDA frequencies to accurately define the aircraft's along-track position during the approach and to precisely define the location of the LDA MAP.

## 8.0 VISUAL AIDS.

The LDA runway must be served by an operational VGSI. Installation must be certified for use by high cockpit aircraft (e.g., DC-10) if the approach is authorized for such aircraft. Also, the VGSI must be aligned with the LDA glide slope and be continuously visible from the LDA MAP to the runway threshold.

## 9.0 RADAR SURVEILLANCE.

Enhanced surveillance is required for the SOIA approaches because the course spacing at the LDA MAP is less than 4,300′. The enhancement is attained by requiring a method of providing high update positional information to ATC, such as through the use of PRM or other technologies which offer one second update rate, high resolution color display, target position forecasting, expanded x-axis presentation, and computer generated alert algorithms.

## 9.1 HIGH UPDATE RADAR MAP.

The use of the high update, sophisticated surveillance capabilities permits approach construction that establishes the location of the MAP at the minimum authorized lateral spacing from the adjacent ILS course. This MAP location captures the lowest approach minimums while providing a visual flight segment to the runway threshold that meets SOIA LDA flyability criteria.

**10.0 PROCEDURE CONSTRUCTION.**

Construct an LDA with a glide slope procedure so as to provide a smooth transition, using normal aircraft maneuvering, from the LDA MAP to join the extended LDA runway centerline at the SAP, using the SOIA computer program described in paragraph 10.4.

**10.1 LDA APPROACH CEILING.**

The LDA approach will require a specified ceiling that will be published on the pilot briefing page. The ceiling must be set to provide time for visual acquisition to be established by the flightcrew prior to aircraft reaching approach minimums. Nominally 30 seconds "clear-of-clouds" time at the highest anticipated approach speed is desirable. As an example, if Category D aircraft are authorized for the LDA approach, a ceiling of approximately 450′ above the LDA MAP altitude is considered adequate. Based on 165 knots IAS, the top of Category D, 450′ will provide nominally 30 seconds "clear-of-clouds time." For operations restricted to the use of Category C aircraft and below, a ceiling of approximately 375′ above the LDA MAP is considered adequate. The aircraft in the highest approach category authorized to conduct the approach will determine approach geometry. For each approach, the ceiling required will be determined by the FAA SOIA computer program (see paragraph 10.4). Clear-of-clouds time values may be refined with operational experience and scientific analysis.

**10.2 LDA APPROACH MDA.**

LDA approach MDA will be rounded upward to the nearest 20-foot increment.

**10.3 VISIBILITY MINIMUMS.**

Establish visibility minimums in accordance with Order 8260.3, chapter 3.

**10.4 SOIA COMPUTER PROGRAM.**

FAA (AFS-420) SOIA computer program will be used to design all SOIA approaches. The SOIA design program determines the approach geometry based on a nominal bank angle of 15°, roll-in/roll-out rates of nominally 3° per second, airport altitude above sea level, and airspeeds defined by Title 14 Code of Federal Regulations (14 CFR) Part 97 aircraft approach category. The angle of intercept of the LDA 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′ to the adjacent final approach course. Roll-in rates of up to 5° per second and bank angles of 25° may be used to determine the realignment flight track.

**10.5 APPROACH DESIGN.**

The approach design must include a minimum straight flight segment of 1,000′ between the turn at the LDA MAP and the turn to intercept the extended runway

centerline at the SAP. The FAA computer program will determine the location of the MAP.

**10.6 STAGGERED THRESHOLD APPROACH DESIGN.**

In the cases where there may be a stagger between the arrival thresholds, it is desirable but not required that the LDA serve the runway with the far-threshold so that the LDA aircraft (the trailing aircraft within the pair) will be established higher along the entire approach path than is the aircraft approaching the adjacent ILS runway.

**10.7 VISUAL SEGMENT.**

Evaluate the visual segment under Order 8260.3, Volume 1, paragraph 251.

**11.0 MISSED APPROACH.**

The LDA missed approach course must diverge by a minimum of 45° from the missed approach course of the ILS approach for the parallel runway. Coordination with Air Traffic will ensure the missed approach procedure does not, to the maximum extent possible, conflict with departures.

**11.1 LDA MISSED APPROACH.**

The LDA missed approach must be evaluated for obstacle clearance to encompass an area beginning at the LDA MAP, and extending to a balked landing point at 200′ AGL on the LDA glide slope. Climb gradients may be used where the 40:1 missed approach surface is penetrated.

**12.0 CHARTING.**

The approach chart must be titled according to standard FAA practices.

**12.1 APPROACH CHART PRESENTATION.**

The approach chart presentation must conform to present conventions for closely spaced simultaneous approaches up to the LDA MAP. Appendix 1 contains generic Pilot Briefing Pages. These briefing pages are consistent with closely spaced approach procedures and also describe the visual segment of the LDA approach. Appendix 1 also contains a depiction of the SOIA geometry for informational purposes only.

**12.2 CHARTING OF VISUAL SEGMENT.**

The visual segment (that portion of the approach between the LDA MAP and the runway threshold) must be charted using established FAA practices.

**12.3 APPROACH PLATE PROCEDURAL NOTES.**

The following procedural notes must be included on the SOIA LDA and ILS approach plates:

**12.3.1** **To specify distance between centerlines** of the adjacent runway, use the following note:

**"Runway XXX and XXX separated by XXX feet centerline to centerline."**

**12.3.2** **To indicate approach procedures** authorized for simultaneous operations, use the following note:

For the ILS PRM approach: **"Simultaneous approach authorized with LDA PRM RWY XXX."**

For the LDA PRM approach: **"Simultaneous approach authorized with ILS PRM RWY XXX."**

**12.3.3** **Balked landing climb gradient, if applicable.**

**12.3.4** **Pilot responsibilities** during the extended visual segment of the SOIA procedure.

**12.3.5** **LDA PRM approach plate should read: "DME required."**

**13.0 WAKE TURBULENCE REQUIREMENTS.**

When SOIA runways are at least 2,500′ apart, there are no wake turbulence requirements between aircraft on adjacent final approach courses. For runways less than 2,500′ apart, whenever the ceiling is less than 500′ above the Minimum Vectoring Altitude (MVA), wake vortex spacing as described in Order 7110.65, paragraph 5-5-4, MINIMA, must be applied. ATC must issue all wake turbulence advisories when applicable. This procedure is applicable unless acceptable mitigating techniques and operational procedures can be documented or developed and verified by a Flight Standards safety assessment. The wake turbulence mitigation techniques employed will be based on each airport's specific runway geometry and meteorology conditions.

**13.1 CROSSWIND LIMITATIONS.**

The limiting steady state, direct crosswind component of the reported airport surface wind, will be 10 knots for runways spaced 750′ apart, increasing by one knot for each additional 75 of centerline separation to a maximum of 15 knots (when centerline spacing is at least 1,125′). These requirements may be refined based on operational experience and scientific analysis.

**13.2 APPROACH PROCEDURES OUTSIDE THE MAP.**

Approach procedures outside the MAP must conform to standard simultaneous parallel approach procedures.

**13.3 DAY AND NIGHT OPERATIONS.**

Day and night operations are authorized unless the site-specific conditions prohibit night operations.

**13.4 SOIA IMPLEMENTATION.**

The implementation process must be:

**13.4.1** **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 implementation teams.

**13.4.2** **Establishment of a simultaneous instrument approach** data collection effort in concert with Air Traffic, as provided by Order 7110.112, Simultaneous ILS/MLS Blunder Data Collection.

**13.4.3** **Establishment of local implementation teams** at each SOIA site to monitor local operational integrity issues, and report/refer issues for national consideration as appropriate.

**14.0 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.

James J. Ballough
Director, Flight Standards Service

# SAMPLES

# OF

# PILOT BRIEFING PAGES

# AND A

# DEPICTION OF SOIA GEOMETRY

**LDA PRM RWY XXX**

## ATTENTION ALL USERS OF LDA PRECISION RUNWAY MONITOR (PRM)

Special pilot training required before accepting a clearance for a simultaneous close parallel LDA PRM approach (see NOTE: Special Pilot Training required**). Pilots must notify ATC (enter specific procedures for the destination airport) if they cannot meet the requirements on this information page. Aircraft unable to conduct this approach may encounter delays.

**1. ATIS.** The ATIS will broadcast that simultaneous ILS PRM and LDA PRM approaches are in progress.

Simultaneous approach weather minimums are X,XXX feet (ceiling), 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 and monitor controller will **transmit** on both frequencies. Pilots will ONLY transmit on the primary frequency, but will listen to both frequencies. It is important that pilots do not select the monitor frequency audio until 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 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 feet required obstruction clearance. The MVA in the final approach segment is X,XXX feet at (Name) Airport.

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. LDA Navigation.** After accepting a clearance for an LDA PRM approach, remain on the LDA course until passing XXXXX intersection prior to maneuvering to align with the centerline of runway XXX.

**5. (Name) Airport Visual Segment.** If ATC advises that there is traffic on the adjacent ILS, pilots are authorized to continue past the LDA MAP to align with runway centerline when 1) the ILS traffic is in sight and is expected to remain in sight and ATC has been so advised, and 2) the runway environment is in sight. Otherwise, a missed approach must be executed. Between the LDA MAP and the runway threshold, pilots of the LDA aircraft are responsible for separating themselves visually from traffic on the ILS approach, which means maneuvering the aircraft as necessary to avoid the ILS traffic until landing, and providing wake turbulence avoidance, if applicable. Advise ATC, as soon as practical, if visual contact with the ILS traffic is lost and execute a missed approach unless otherwise instructed by ATC.

*NOTE: SPECIAL PILOT TRAINING REQUIRED**. All pilots must complete ILS PRM Approach Training before accepting a clearance for a simultaneous close parallel LDA PRM approach. For operations under Parts 121, 129, and 135, pilots must comply with FAA-approved company training. For operations under Part 91, pilots must be familiar and comply with the information as provided in the Aeronautical Information Manual or as provided at http://www.faa.gov/AVR/AFS/PRMtraining/.*

## ILS PRM RWY XXX

### ATTENTION ALL USERS OF ILS PRECISION RUNWAY MONITOR (PRM)

Special pilot training required before accepting a clearance for a simultaneous close parallel ILS PRM approach (see NOTE: Special Pilot Training required**). Pilots must notify ATC (enter specific procedures for the destination airport) if they cannot meet the requirements on this information page. Aircraft unable to conduct this approach may encounter delays.

**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 approach. 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**.

Simultaneous approach weather minimums are X,XXX feet (ceiling), 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 and monitor controller will transmit on both frequencies. Pilots will ONLY transmit on the primary frequency, but will listen to both frequencies. It is important that pilots do not select the monitor frequency audio until 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.

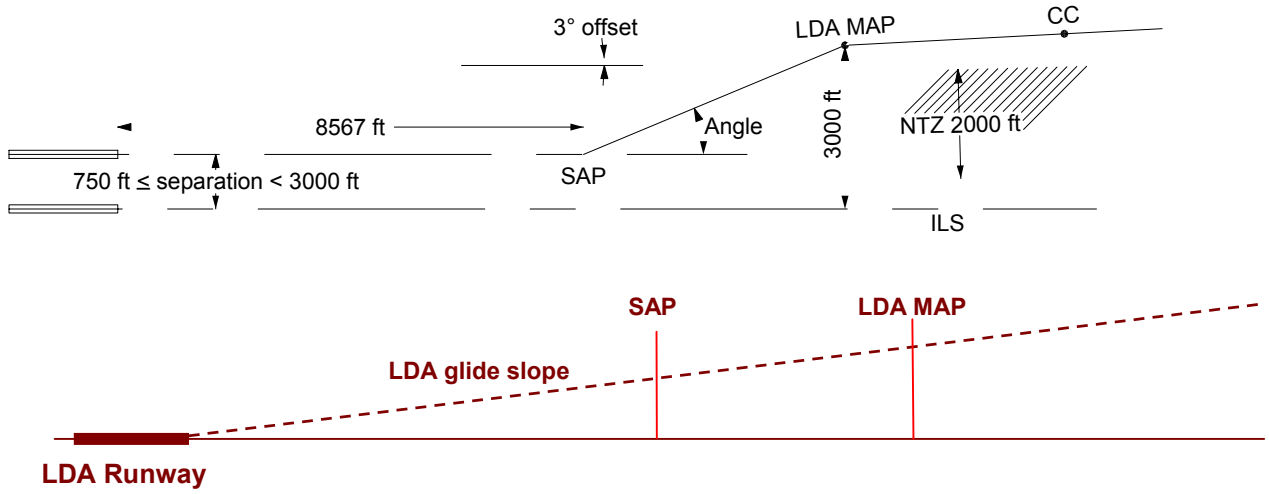
**a. ATC Directed "Breakouts:"** ATC directed breakouts will consist of a turn and a climb or descent. Pilots must always initiate the breakout in response to an air traffic controller instruction. Controllers will give a descending breakout only when there are no other reasonable options available,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

**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)".

*NOTE: SPECIAL PILOT TRAINING REQUIRED**. All pilots must complete ILS PRM Approach Training before accepting a clearance for a simultaneous close parallel ILS PRM approach. For operations under Parts 121, 129, and 135, pilots must comply with FAA-approved company training. For operations under Part 91, pilots must be familiar and comply with the information as provided in the Aeronautical Information Manual or as provided at http://www.faa.gov/AVR/AFS/PRM training/.*

## SOIA GEOMETRY




**SAP** = The SAP is a design point along the extended centerline of the intended landing runway on the glide slope at 500′ above the GPI. It is used to verify a sufficient distance is provided for the visual maneuver after the missed approach point (MAP) to permit the pilots to conform to approved, stabilized approach criteria.

**MAP** = The point along the LDA where the course separation with the adjacent ILS reaches 3,000′ and the NTZ terminates. The altitude of the glide slope at that point determines the approach minimum descent altitude and is where the NTZ terminates. Maneuvering inside the MAP is done in visual conditions.

**Angle** = Angle formed at the intersection of the extended LDA runway centerline and a line drawn between the LDA MAP and the SAP. The size of the angle is determined by the FAA SOIA computer design program, and is dependent on whether Category D aircraft use the LDA and the spacing between the runways.

**Visibility** = Distance from MAP to runway threshold in statute miles (light credit applies).

**Procedure** = LDA aircraft must see the runway and, if less than standard radar separation exists between the aircraft on the adjacent parallel runway, one aircraft must maintain visual separation with the other prior to the LDA aircraft reaching the MAP.

**CC** = Clear Clouds.

U.S. Department
of Transportation

**Federal Aviation
Administration**

**Directive Feedback Information**

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order 8260.49, Simultaneous Offset Instrument Approach (SOIA)

To: DOT/FAA
Flight Procedure Standards Branch, AFS-420
P.O. Box 25082
Oklahoma City, OK 73125

*(Please check all appropriate line items)*

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:
(*attach separate sheet if necessary*)

☐ In a future change to this directive, please include coverage on the following subject:
(*briefly describe what you want added*):

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____