



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

Air Traffic Organization Policy

**ORDER  
JO 7110.308**

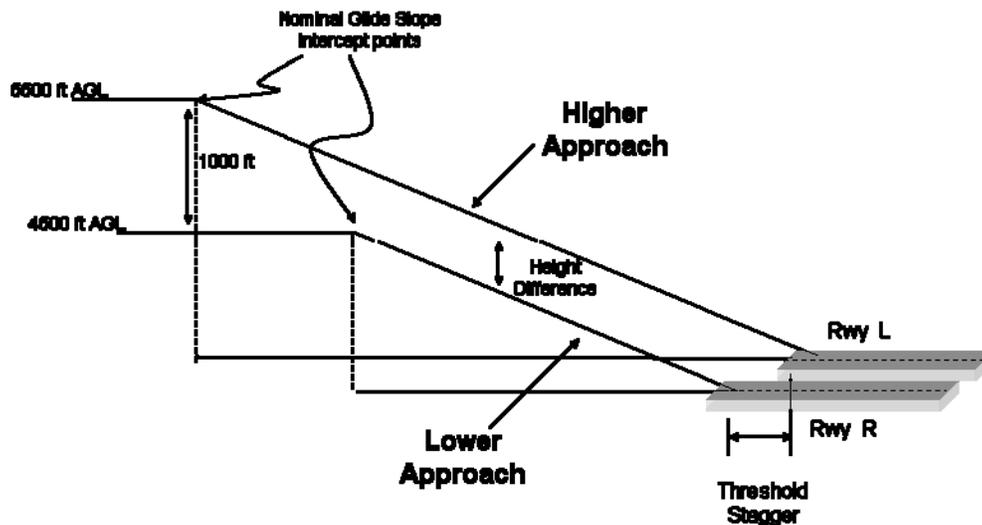
**Effective Date:**  
11/5/08

**SUBJ:** 1.5-Nautical Mile Dependent Approaches to Parallel Runways Spaced Less Than 2,500 Feet  
Apart

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- 1. Purpose of This Order.** This order provides the criteria for Federal Aviation Administration Order (FAAO) 7110.65, Air Traffic Control, Paragraph 5-9-6, Parallel Dependent ILS/MLS Approaches, to conduct 1.5-nautical mile (NM) diagonal spaced approaches to parallel runways spaced less than 2,500 feet, also referred to as closely spaced parallel runways (CSPR), as well as guidance for requesting a specific assessment for an airport CSPR that does not meet the criteria provided by this order.
- 2. Audience.** This notice applies to the Terminal Services organization and all associated air traffic control facilities.
- 3. Where Can I Find This Order?** This order is available on the MYFAA employee Web site at [https://employees.faa.gov/tools\\_resources/orders\\_notices/](https://employees.faa.gov/tools_resources/orders_notices/).
- 4. Explanation of Policy Changes.** FAAO 7110.65, paragraph 5-9-6, limits the use of parallel dependent instrument landing system (ILS)/microwave landing system (MLS) approaches to parallel runways whose centerlines are 2,500 feet or farther apart. This order allows the use of the parallel dependent instrument approaches for specific airport parallel runways whose centerline spacing is less than 2,500 feet.
- 5. Action.** At airports with runways that are authorized by this order to conduct 1.5-NM dependent ILS approaches, the air traffic facility manager must brief and train his or her personnel in the use of the procedure defined by this order and develop facility standard operating procedures for the use of the reduced separation minimums authorized by this order. Air traffic facility managers desiring to add their airports and associated CSPR to this order must follow the process described in Paragraph 6b2, Request for a Specific Airport Analysis.
- 6. Procedures.**
  - a. Airport Criteria Allowing Conduct of Dependent ILS Approaches on CSPR.** Appendix A, Authorized Runway Pairings, presents the runway configurations for which reduced separation is permitted under this order. A common reference point of 7 NM from the lead aircraft runway threshold is used to present glide slope height differences that provide wake encounter mitigation for the authorized procedure at each airport. Glide slope height differences may either be accomplished by threshold stagger or small glide slope angle differences (or both), thus yielding a higher and lower approach. (See FIG 1.)

FIG 1  
Side View of Example CSPR Approach



**b. Request for a Specific Airport Analysis.** Written requests for analysis of specific airport geometries must be made to the Air Traffic Organization (ATO) Terminal Safety and Operations Support office through the managing service area for the requesting facility. The request will be addressed through the following process:

(1) The airport facility will provide a written request to the managing service area for an analysis to be conducted. The request will include:

- (a) The runway pair and types of instrument approaches to be considered.
- (b) The centerline separation between the runway pair.
- (c) The latitude and longitude of the landing threshold of each runway.
- (d) Charted missed approach procedures for lost communications for ILS approach to each runway (new or existing runways).

(2) The service area will evaluate the request and forward it to Terminal Safety and Operations Support if the request is valid.

(3) Terminal Safety and Operations Support will request a wake encounter risk assessment from ATO System Operations Services.

(4) Terminal Safety and Operations Support will coordinate, for approval, the wake encounter risk assessment with ATO Safety Services and the Air Traffic Safety Oversight Service and amend Appendix F, Safety Analysis for CSPR Instrument Approach Procedure, of the national rule change safety risk management document (SRMD).

(5) Terminal Safety and Operations Support will approve the risk assessment and amended SRMD (leading to steps 6 and 7 below) or communicate disapproval with proposed mitigations to the managing service area (leading to step 8 below).

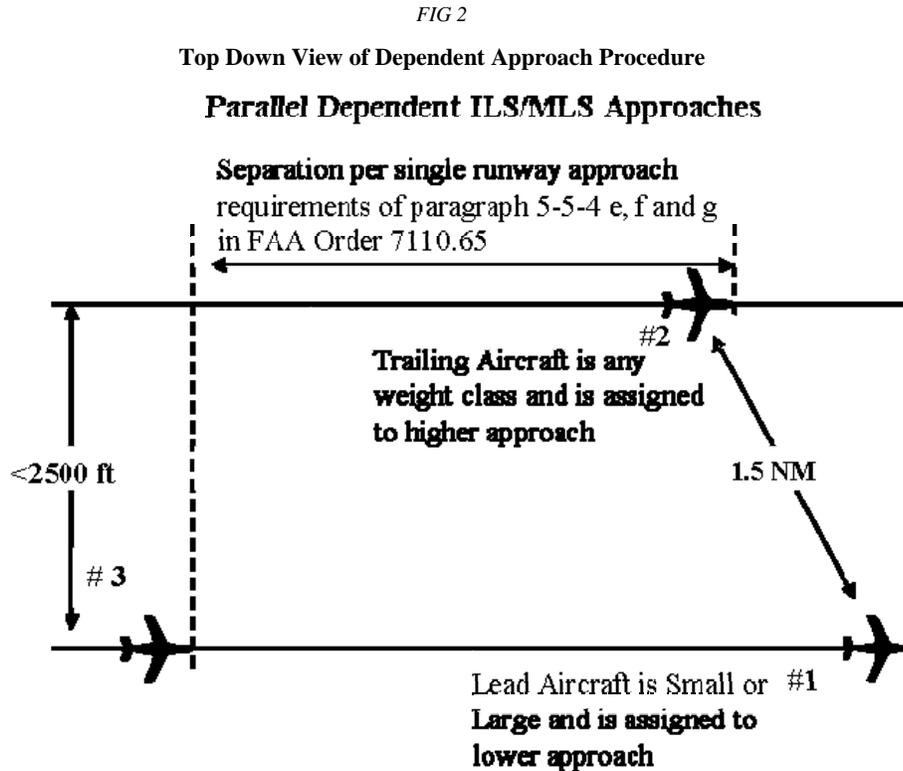
(6) The approval will be coordinated through ATO Safety Services, Terminal Safety and Operations Support, the managing service area, and to the requesting facility.

(7) The approval will be implemented by the requesting facility and implementation contingent on the provisions in this order.

(8) Disapprovals with proposed mitigations will be coordinated through ATO Safety Services, to Terminal Safety and Operations Support and System Operations Services, to the managing service area and to the requesting facility for further consideration.

**c. Procedures for Dependent Approaches to CSPRs.**

(1) Figure 2 provides a graphical depiction of the definitions provided in paragraph 9 of this order. The lead aircraft is aircraft #1 and is assigned to the lower approach. The trailing aircraft is aircraft #2. The lead aircraft in the next pair of reduced separation is aircraft #3.



(2) Conditions for Use. Parallel dependent ILS approaches can be conducted at the airport/runway combinations listed in appendix A under the following conditions:

- (a) Provide a minimum of 1,000 feet vertical or a minimum of 3 miles radar separation between aircraft until established on the localizer and cleared for the approach.
- (b) The lead aircraft of the dependent separation pair is a small or large aircraft and must be assigned the lower (lead in TBL A-1) approach and must be established on the localizer before the trailing aircraft is established.
- (c) Any aircraft type may participate as the trailing aircraft in the dependent pair.
- (d) The lead aircraft will be cleared for the approach before the trailing aircraft.
- (e) The trailing aircraft will be cleared for the approach before the loss of standard separation.
- (f) Provide a minimum of 1.5 miles radar separation diagonally with pairs of lead/trailing aircraft.
- (g) Provide standard separation between the trailing aircraft of one pair and the leader of the next pair based on FAA Order 7110.65, section 5, subparagraphs 5-5-4e and 5-5-4f.

(h) Reduced separation is not permitted if either of the aircraft in a reduced separation pair is conducting a nonprecision approach.

(i) If the lead aircraft executes a missed approach and is larger than the trailing aircraft in the pair, the trailing aircraft will be instructed to execute a missed approach.

**d. Navigational Aids.** The 1.5-NM diagonal dependent approaches authorized by this order may be conducted using ILS Category I (CAT I) equipment.

**e. Radar Surveillance.** Terminal approach radar services apply.

**f. Weather Minimums.** The 1.5-NM diagonal dependent approaches authorized by this order may be conducted down to and including CAT I weather conditions.

**g. Charting.** Charting for ILS approaches with modified glide slope angles will be published after flight checking and before the implementation of ILS procedures authorized by this order.

**7. Distribution.** This notice is distributed to the following ATO service units: En Route and Oceanic, Terminal, Safety, NextGen and Operations Planning, and System Operations Services; the Air Traffic Safety Oversight Service; the William J. Hughes Technical Center; and the Mike Monroney Aeronautical Center.

**8. Background.** Increased airport capacity and reduced arrival delays, under instrument meteorological conditions down to and including CAT I, can be achieved by using 1.5-NM diagonal separation within successive pairs of arrivals to CSPRs. This type of dependent instrument approach can be conducted for airports with specific centerline separations and threshold staggers. The lead aircraft of the dependent pair is restricted to being small or large aircraft weight type and is cleared to the lower approach. The geometry of the approach, with small or large aircraft leading on the lower approach, as well as the lateral separation between the two approaches, provide wake turbulence avoidance necessary for this reduced separation dependent approach operation.

Lateral separation between the two approaches contributes to wake avoidance. In addition, a small glide path height difference may be necessary, especially at distances of 7 or more nautical miles from touchdown, to ensure the trailing aircraft is at or above the height of the leading aircraft in the reduced separation pair. The required glide path height can be achieved through displaced landing thresholds or through small glide path angle differences that are permitted within the constraints of precision approaches.

**9. Definitions.** For the purpose of this order, the following definitions are provided.

**a. Lead Aircraft** – The lead aircraft in the pair of reduced separation aircraft, authorized by this order. The lead aircraft is restricted to be a small or large aircraft weight type as defined in FAAO 7110.65, Appendix A, Aircraft Information Fixed-Wing Aircraft.

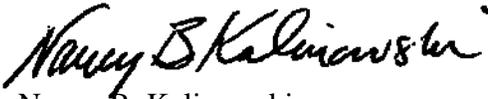
**b. Lead Approach** – The approach assigned to the lead aircraft in a reduced separation pair. For each CSPR pair identified in appendix A of this order, the lead approach is listed first and is typically the lower approach.

**c. Higher Approach** – The higher approach is the approach to the runway with the staggered landing threshold. (See FIG 1.)

**d. Lower Approach** – The lower approach is the approach to the runway with the nonstaggered landing threshold. (See FIG 1.)

**e. Trailing Aircraft** – The trailing aircraft in the pair of reduced separation aircraft, authorized by this order, and is not restricted by weight class.

**f. Trailing Approach** – The approach assigned to the trailing aircraft in a reduced separation pair. For each CSPR pair identified in appendix A, the trailing approach is listed second and is typically the higher approach.



Nancy B. Kalinowski  
Vice President, System Operations Services  
Air Traffic Organization

*11-5-08*

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Date Signed

**Appendix A. Authorized Runway Pairing**

*TBL-A-1*

Specific Airports/Runway Geometries Approved  
for 1.5-NM Diagonal Dependent Approaches

Airport	CSPR Pair (Lead/Trail)	Centerline Separation (in feet)	Glide Path Height Difference (7 NM from lead a/c threshold)	Runway (Lead/Trail)	Navigation Type	Glide Slope Angle (degrees)
BOS	4R/4L	1,500	128 feet	4R (lead)	ILS	3.0
				4L (trail)	ILS	3.1
CLE	6L/6R	1,241	193 feet	6L (lead)	ILS	3.0
				6R (trail)	ILS	3.1
	24L/24R	1,241	63 feet	24L (lead)	ILS	3.0
				24R (trail)	ILS	3.0
PHL	9R/9L	1,400	316 feet	9R (lead)	ILS	3.0
				9L (trail)	ILS	3.0
	27R/27L	1,400	263 feet	27R (lead)	ILS	3.0
				27L (trail)	ILS	3.0
SEA	34C/34L	1,700	49 feet	34C (lead)	ILS	3.0
				34L (trail)	ILS	3.0
	16C/16R	1,700	0 feet	16C (lead)	ILS	3.0
				16R (trail)	ILS	3.0
STL	30R/30L	1,300	89 feet	30R (lead)	ILS	3.0
				30L (trail)	ILS	3.0
	12R/12L	1,300	159 feet	12R (lead)	ILS	3.0
				12L (trail)	ILS	3.0