

National Rule Change and Follow On

(1.5 nm Dependent Approaches to Parallel
Runways Spaced Less than 2500')

Briefing to Wakenet3

January 9th 2009

Steve Lang, Jeff Tittsworth, Edward Johnson

Federal Aviation Administration - FAA

Steve.Lang@FAA.GOV

Jeffery.Tittsworth@FAA.GOV

Edward.Johnson@FAA.GOV



Federal Aviation
Administration



Rule Change Status

- **Change documented in FAA Order 7110.308**
- **Nov 5th the National Order was approved**
- **Safety risk management document approved August 2008**
- **FAA safety organization (AOV) approval received Sep 30 2008**



Order 7110.308 Covers These Airports with Closely Spaced Parallel Runways

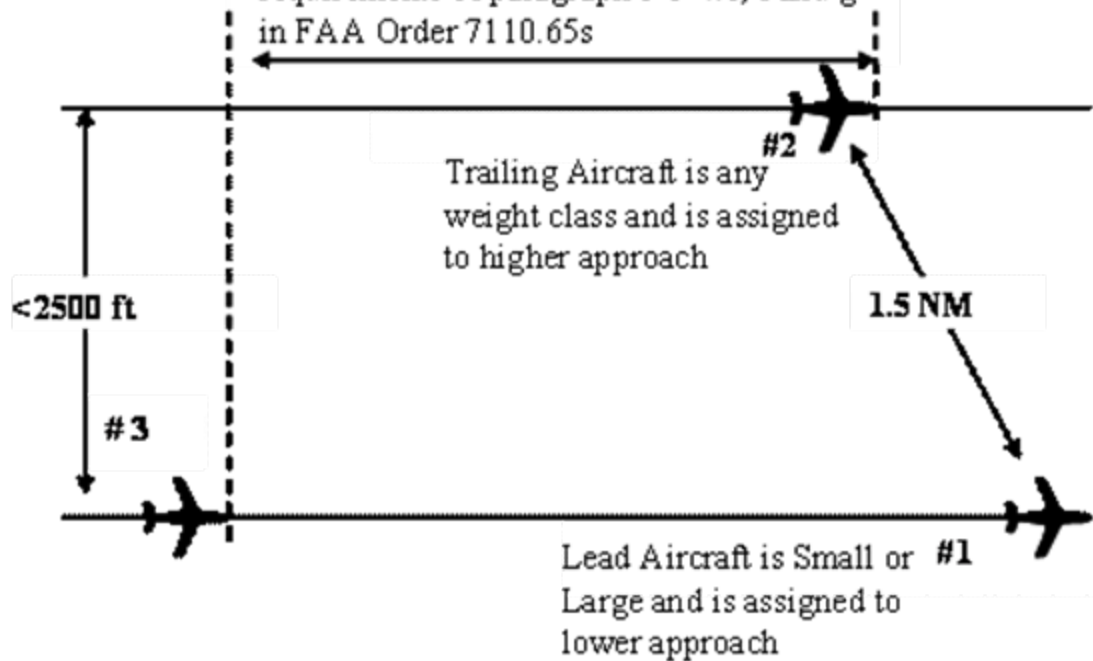
Airport	CSPR Pair (Lead/Trail)	Centerline Separation	Glide Path Height Difference (7 NM from lead a/c threshold)	Runway (Lead/Trail)	Navigation Type	Glide Slope Angle (degrees)
BOS	4R/4L	1500	128 ft	4R (lead)	ILS	3.0
				4L (trail)	ILS	3.1
CLE	6L/6R	1241	193 ft	6L (lead)	ILS	3.0
				6R (trail)	ILS	3.1
	24L/24R	1241	63 ft	24L (lead)	ILS	3.0
				24R (trail)	ILS	3.0
PHL	9R/9L	1400	316 ft	9R (lead)	ILS	3.0
				9L (trail)	ILS	3.0
	27R/27L	1400	263 ft	27R (lead)	ILS	3.0
				27L (trail)	ILS	3.0
SEA	34C/34L	1700	49 ft	34C (lead)	ILS	3.0
				34L (trail)	ILS	3.0
	16C/16R	1700	0 ft	16C (lead)	ILS	3.0
				16R (trail)	ILS	3.0
STL	30R/30L	1300	89 ft	30R (lead)	ILS	3.0
				30L (trail)	ILS	3.0
	12R/12L	1300	159 ft	12R (lead)	ILS	3.0
				12L (trail)	ILS	3.0



Proposed Procedure

Parallel Dependent ILS/MLS Approaches

Separation per single runway approach requirements of paragraph 5-5-4.e, f and g in FAA Order 7110.65s



Risk Management Approach

- **A safety risk management panel identified potential hazards** (hazards were similar to those for a previous STL waiver)
- **Risks were assessed for each of the 5 airports**
- **Wake Encounter Risk Analysis for National Rule Change (NRC) is more comprehensive than that for STL Waiver**
- **Relative Risk assessment as compared to Single Runway Arrival**



Relative Safety Analysis

- **Comparisons made with current operations**
- **Target levels of safety and methodologies were not defined for proving the safety of wake procedures**
- **Necessary to develop the data requirements and supporting analyses for the national rule change safety case**
 - Assumption that current operations provide an acceptable level of wake safety
 - Wake vortex measurement campaign at multiple airports conducted
 - Measurement & analysis of typical flight technical errors during approach operations
 - Assess likelihood of wake encounter at various following distances
 - Statistical approach to determine NRC likelihood of wake encounter relative to current operations



Discussion of NGE/IGE Results

→ **SR**

- Wake Encounters Exist for Today's SR Operations of Large following Large and Small following Large

→ **CSPR**

- Relative to SR Operations, CSPR Wake Encounters Overall Are Rare When Close to Ground
- Thus, CSPR procedures are much safer compared to SR near the ground from encounter frequency perspective

→ **STL IGE wake transport data are likely worst case**

- Measured transport was for prevailing strong crosswind direction. Weaker crosswinds likely at other airports.
- Upward sloping STL terrain promotes wake rising

NRC Consideration of Future Airports

- ➔ **FAA Order documents process for other airports with CSPRs to request evaluation for inclusion in this order**
- ➔ **Wake Program will examine 3 additional airports and CSPRs**
 - EWR
 - MEM and
 - SEA 16L/C, 34R/C
- ➔ **Work with AFS and RNP program office for approval of simultaneous ILS/RNP parallel dependent approaches to runways >2500 ft**



Questions?

