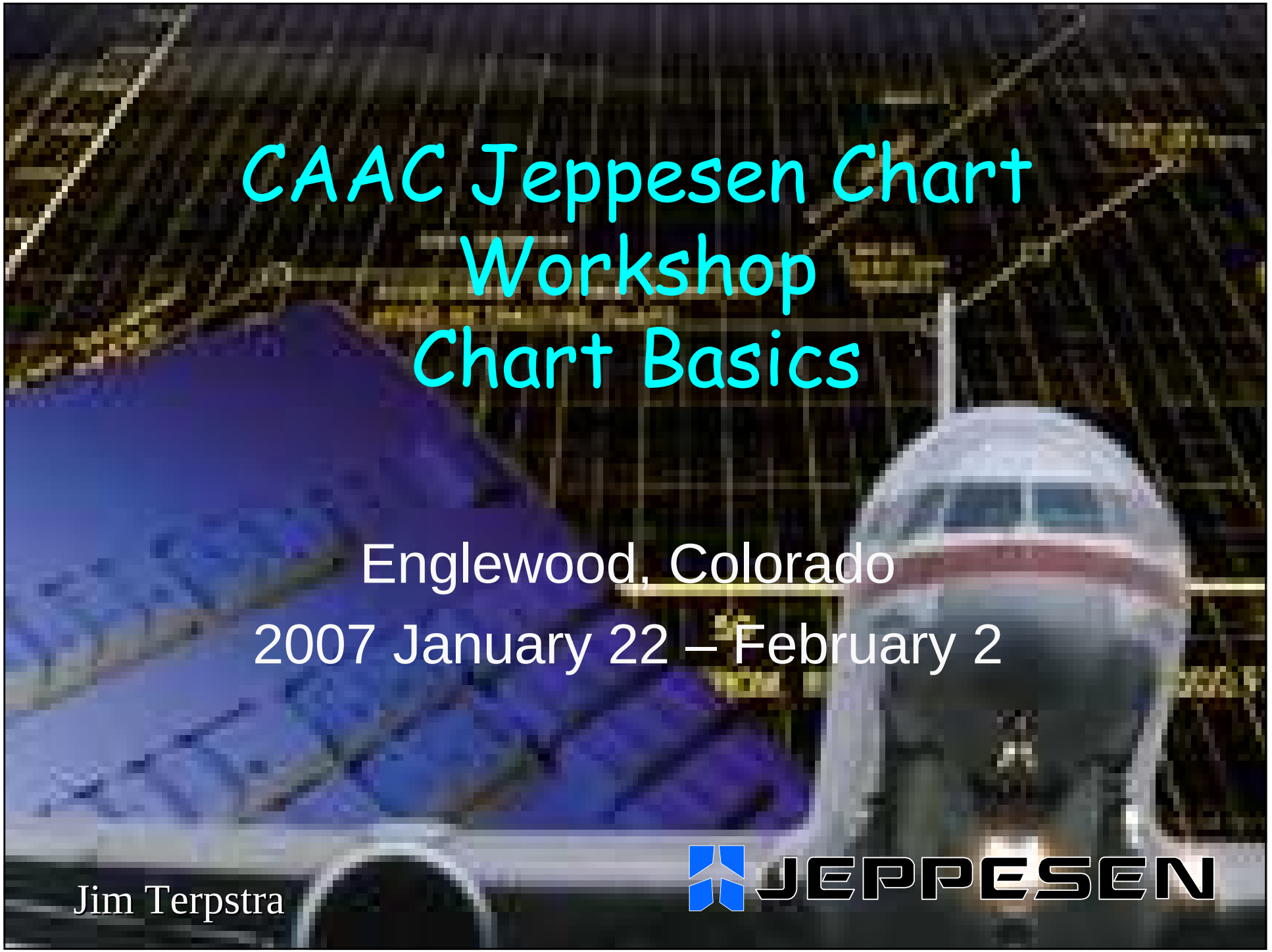


CAAC Jeppesen Chart Workshop
Chart Basics

Englewood, Colorado

2007 January 22 – February 2

Jim Terpstra

JEPPESEN

Doc 8168-OPS/611
Volume II
4th Edition
Corrigendum No. 6
5/7/02

PROCEDURES
FOR
AIR NAVIGATION SERVICES

AIRCRAFT OPERATIONS

VOLUME II

CONSTRUCTION OF VISUAL AND INSTRUMENT FLIGHT PROCEDURES

FOURTH EDITION — 1993

CORRIGENDUM No. 6

1. Replace pages 3-107, 3-171, 3-173, 3-174 and 3-183 by the attached corresponding new pages.
2. Record the entry of this corrigendum on page (ii).

ICAO PANS OPS

Responsibility of ICAO Obstacle Clearance Panel (OCP).

States are members and industries are advisors

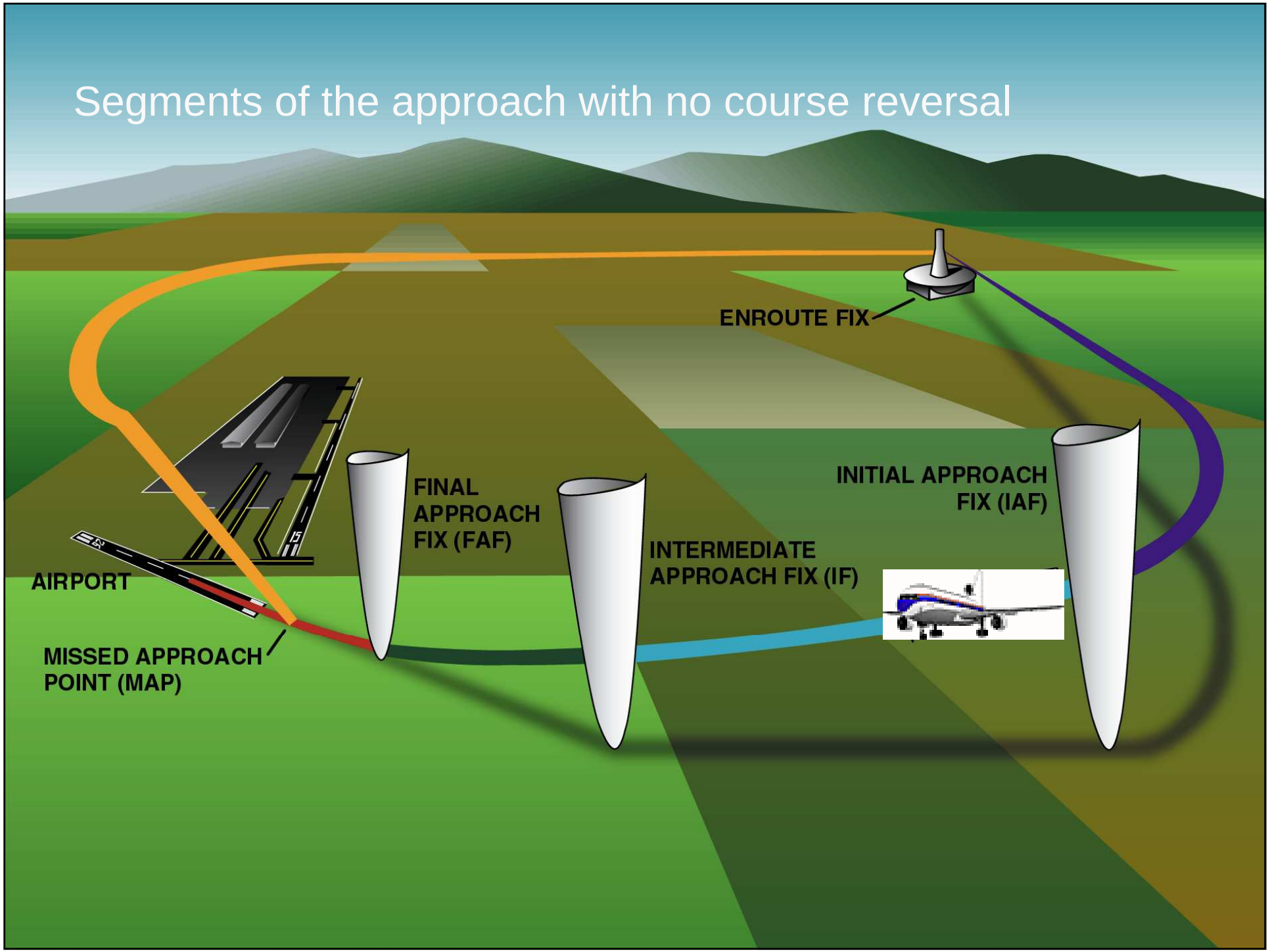
US TERPS

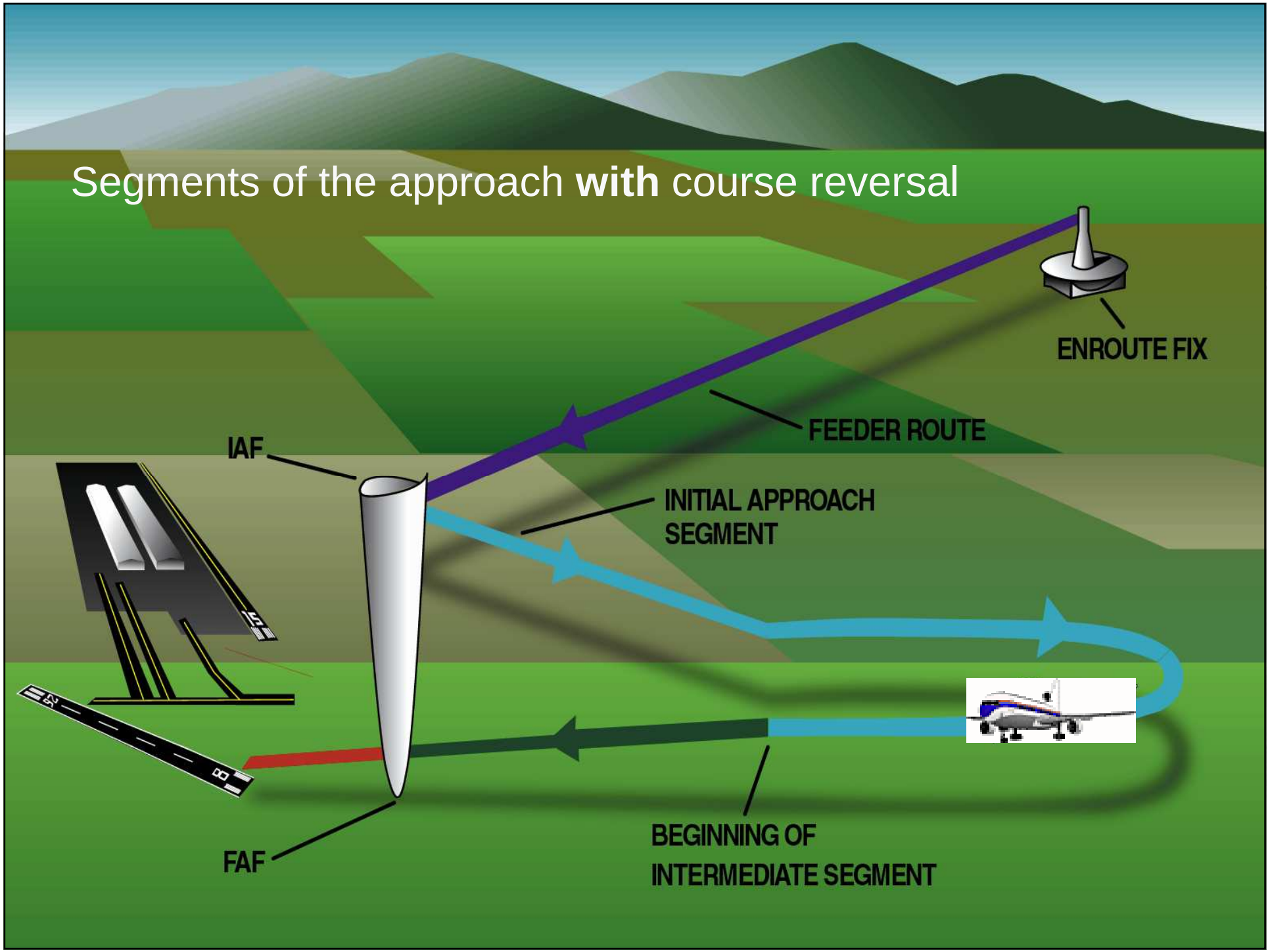
Responsibility of FAA in cooperation with industry and other governments

ICAO PANS OPS vs. TERPS

- Segments of the approach the same
  - IAF, IF, FAF, MAPt, MAHF
- Flying the approach the same
- Size of Circling-to-land size varies
- ICAO PANS OPS used by most States
- TERPS used by US, Canada, Korea, Taiwan, Saudi Arabia, some others

Segments of the approach with no course reversal




Segments of the approach **with** course reversal
ENROUTE FIX
FEEDER ROUTE
IAF
INITIAL APPROACH SEGMENT
FAF
BEGINNING OF INTERMEDIATE SEGMENT

ICAO Circling Area

PANS OPS 4

STRAIGHT-IN LANDING RWY 36R					CIRCLE-TO-LAND Not authorized West of rwy	
ILS DA(H) 298′(200′)			LOC (GS out) MDA(H) 430′(332′)		Max Kts	MDA(H)
FULL	TDZ or CL out	ALS out		ALS out		
A	RVR …0m	RVR 720m VIS 800m	1200m	RVR 720m VIS 800m	RVR 1500m VIS 1600m	100	640′(525′) 1600m
B	…m					135	
C				1200m		180	870′(755′) 3600m
D						205	870′(755′) 4000m

Beijing ILS Rwy 36R

CHANGES: Communicatio

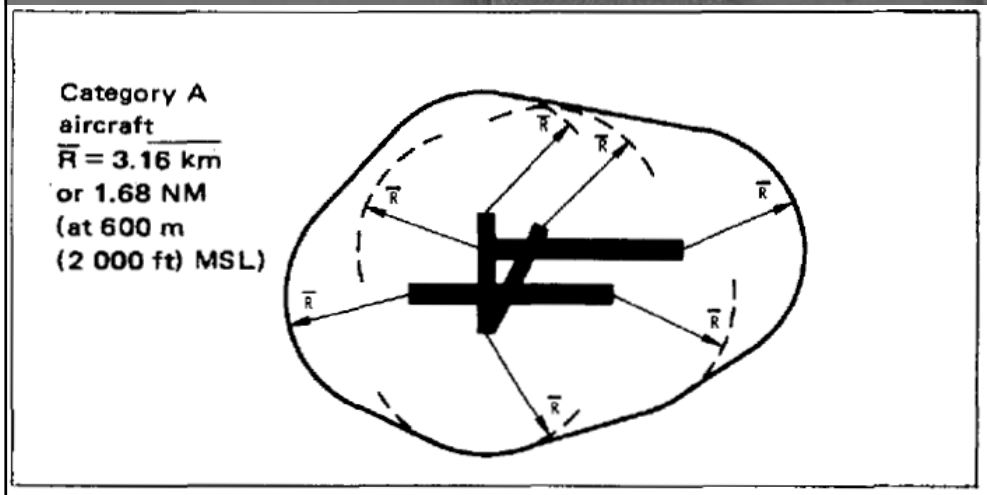


Figure III-8-2. Visual manoeuvring (circling) area

ICAO Circling areas based on:

a) *speed:* speed for each category as shown in Tables III-1-1 and III-1-2;

b) *wind*: ± 46 km/h (25 kt) throughout the turn; and

c) *bank*: 20° average achieved or the bank angle producing a turn rate of 3° per second, whichever is the lesser bank. (See Figures IV-A-2 and IV-A-3 in Attachment A to Part IV).

Table III-8-1. Example of determining radii for visual manoeuvring (circling) area for aerodromes at 600 m MSL (SI-units)

Category of aircraft/IAS (km/h)	*A/185*	*B/250*	*C/335*	*D/380*	*E/445*
TAS at 600 m MSL + 46 km/h wind factor (km/h)	241	310	404	448	516
Radius (r) of turn (km)	1.28	2.08	3.46	4.34	5.76
Straight segment (km)	0.56	0.74	0.93	1.11	1.30
Radius ($\overline{R}$) from threshold (km)	3.12	4.90	7.85	9.79	12.82

ICAO Circling Areas

Table III-8-2. Example of determining radii for visual manoeuvring (circling) area for aerodromes at 2 000 ft MSL (non-SI units)

Category of aircraft/IAS (kt)	*A/100*	*B/135*	*C/180*	*D/205*	*E/240*
TAS at 2 000 ft MSL + 25 kt wind factor (kt)	131	168	215	242	279
Radius (r) of turn (NM)	0.69	1.13	1.85	2.34	3.12
Straight segment (NM) (this is a constant value)	0.30	0.40	0.50	0.60	0.70
Radius ($\overline{R}$) from threshold (NM)	1.68	2.66	4.20	5.28	6.94

Note.— Radius from threshold ($\overline{R}$) = 2r + straight segment.

US and other States have different size of Circling area than ICAO

	STRAIGHT-IN LANDING RWY 32		CIRCLE-TO-LAND		
	MDA(H) 1280′(325′) With Local Altimeter Setting	MDA(H) 1360′(405′) With Atlanta Altimeter Setting	Max Kts	With Local Altimeter Setting MDA(H)	With Atlanta Altimeter Setting MDA(H)
A	1	1	90	1420′(450′)-1	1500′(530′)-1
B			120		
C			140	1420′(450′)-1½	1500′(530′)-1½
D			165	1520′(550′)-2	1600′(630′)-2

AMEND 0 TERPS

CHANGES: New chart format.

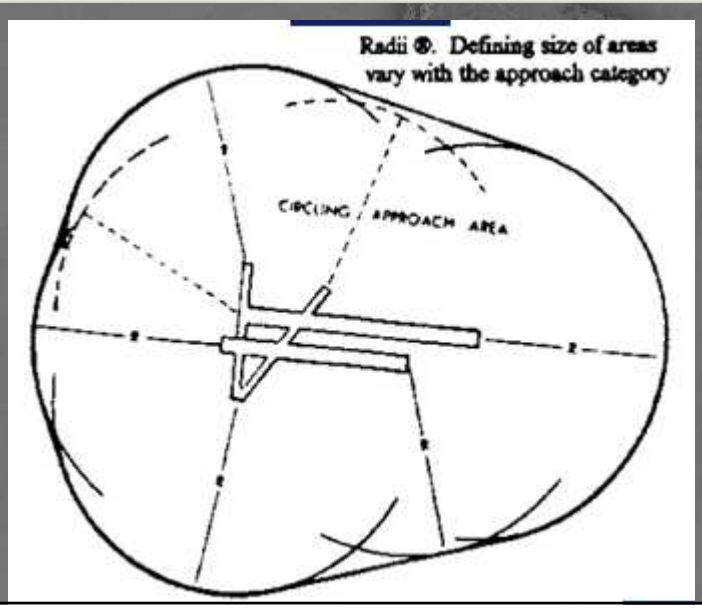
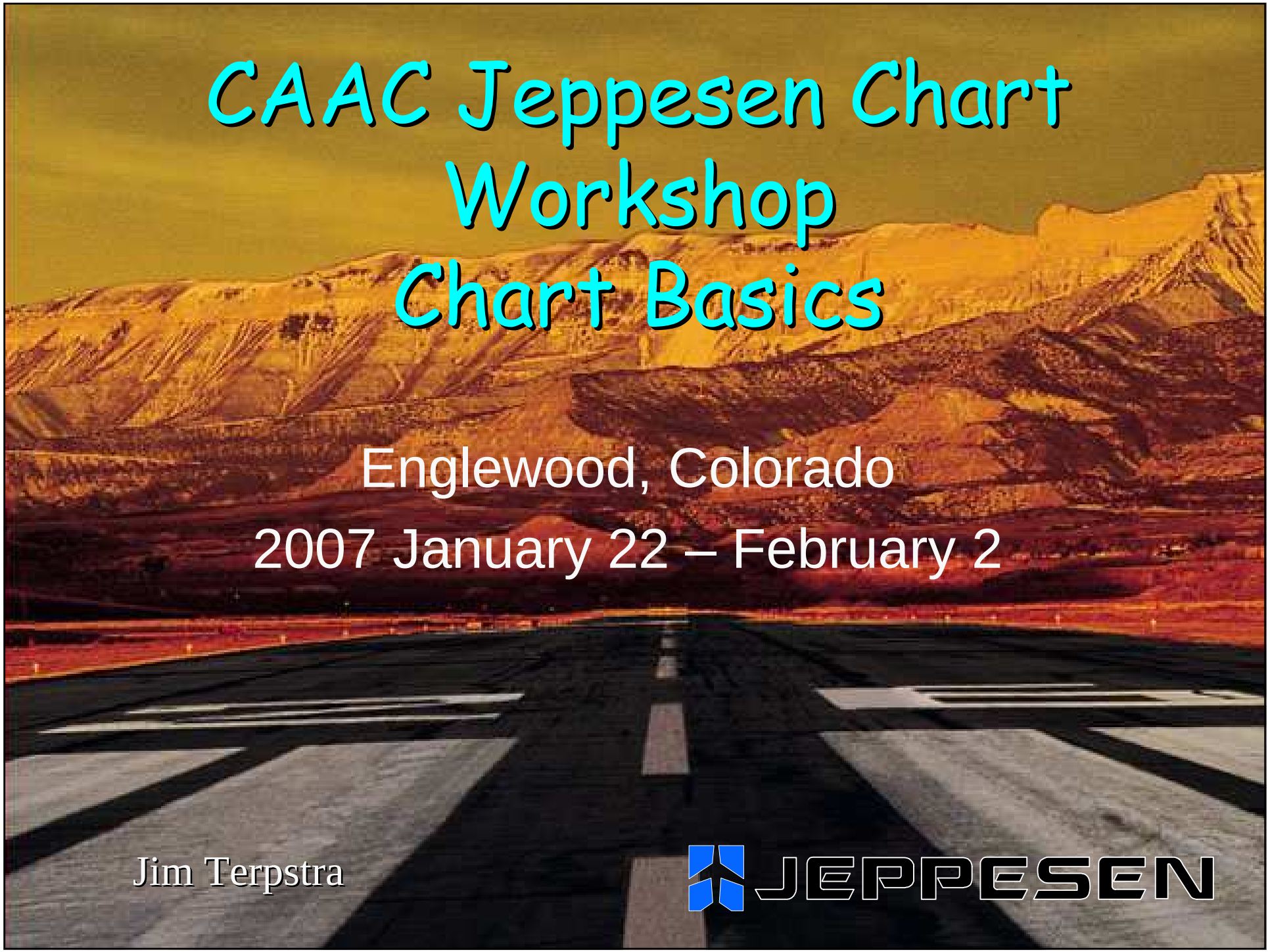


Table 4. CIRCLING APPROACH AREA RADII. Par 260a.	
Approach Category	**Radius (Miles)**
A	1.3
B	1.5
C	1.7
D	2.3
E	4.5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