

Re-categorization of the Wake Turbulence Separation Minima

RECAT

Wakenet-3 Europe Workshop

17-18 November 2010

RECAT – The need

- ICAO Wake Turbulence Separation Standards, 3 categories, H, M ,L.

	Heavy Follower	Medium Follower	Light Follower
Heavy Leader (>136t)	4NM	5NM	6NM
Medium Leader (7-136t)			5NM
Light Leader (<7t)			

- Most of the European Airports use ICAO standards
- Many local variations to accommodate more traffic
- ICAO Wake standards are not up to date
- No accidents and no significant incidents due to wake vortex in Europe

- **Massive amount of Research**
- **Wake vortex measurement systems, like LIDARs**
- **Good understanding of the phenomenon**
- **Modeling the phenomenon**
- **New aircraft types enters into operation**

RECAT – Objectives

- **New wake turbulence categories and associated separation standards**
- **EUROCONTROL – FAA joint effort**
- **Simple assumptions:**
 - Safety
 - Not only weight (wingspan, speed)
 - Cost / Benefit
 - Methodology for future aircraft types
 - No changes on the flight deck
 - Minimum modifications on the ground (if any)
 - Minimum changes in procedures

RECAT – Scope

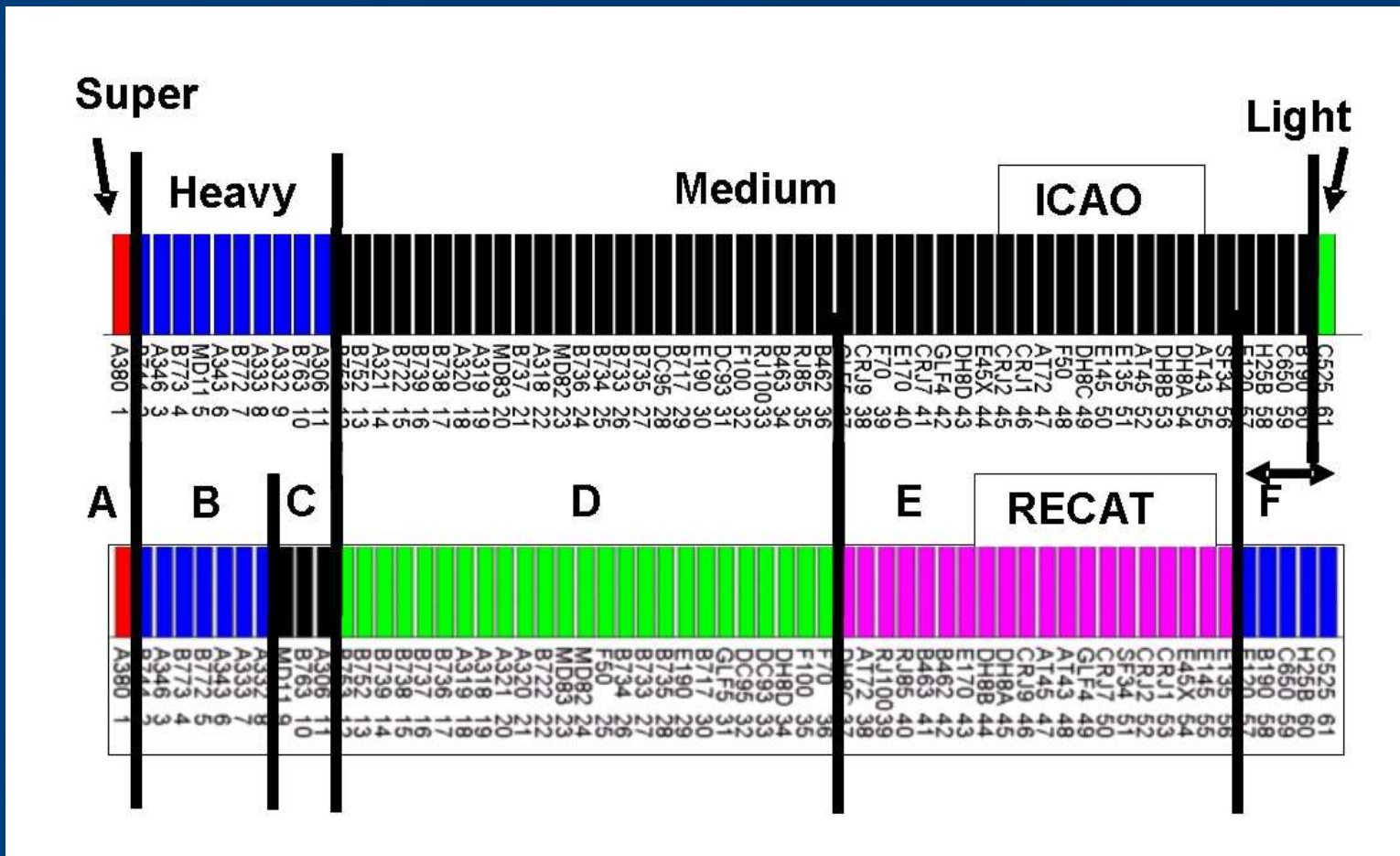
- Design a 6 category wake turbulence scheme
- Provide the safety case to support the technical solution
- **States will decide the implementation time schedule, based on their local needs**
- **ICAO will prescribe both, present H M L and RECAT**
- Next steps: procedures, human factors, Doc4444 amendments proposal

RECAT – Challenges

- **Preserve present way of working (today some airports are using 6 categories – EGLL, FAA)**
- **Complex Safety Case; ICAO baseline**
- **Traffic Mix factor, optimum compromise**
- **Step stone towards SESAR**

- **Technical solution finished**
- **Capacity benefits 3 - 5% for very busy airports**
- **Safety Case activity on-going**

RECAT – proposal



RECAT – proposal

		Optimized Separation Matrix (nm)					
		Follower					
		A	B	C	D	E	F
Leader	A	MRS	5.0	6.0	7.0	7.0	8.0
	B	MRS	3.0	4.0	5.0	5.0	7.0
	C	MRS	MRS	MRS	3.5	3.5	6.0
	D	MRS	MRS	MRS	MRS	MRS	5.0
	E	MRS	MRS	MRS	MRS	MRS	4.0
	F	MRS	MRS	MRS	MRS	MRS	MRS

A: super heavies

B: B777, A340...

C: B767, A306...

D: A320, B737, MD80...

E: RJ85, AT45, E145...

F: B190, C525...

RECAT – proposal

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	C	MRS	MRS	MRS	3.5	3.5	6.0
	D	MRS	MRS	MRS	MRS	MRS	5.0
	E	MRS	MRS	MRS	MRS	MRS	4.0
	F	MRS	MRS	MRS	MRS	MRS	MRS

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RECAT

The project is now at its final stages, and within EUROCONTROL the required consultation process with stakeholders is presently ongoing.

Thank you