SESAR		Initial							APT	
AOP20		Wake Turbulence Separations for Departures based on Static Aircraft Characteristics (S-PWS-D)								
REG	ASP	MIL	APO	USE	INT	IND	NM	MET	AIS	USP

Subject matter and scope

This objective represents optimization of the ICAO wake turbulence separation classes by use of longitudinal wake turbulence static pair-wise separation minima for departures (S-PWS-D), applicable in all operating conditions.

The Static PairWise Separation for Departures concept optimizes wake separations between departures on the initial departure path by moving to a scheme defined between aircraft type pairs for the 96 aircraft types frequently at ECAC major airports, together with a scheme defined by a larger number of wake categories (20-CAT (6-CAT + 14-CAT)) for other aircraft type combinations.

The S-PWS-D is applied using a separation delivery tool, where the pairwise separations will be used as input into the separation delivery tool.

S-PWS-D requires the Optimised Separation for Departure (OSD) tool to be integrated at CWP and the wind measurement or forecast on the final approach path.

This objective targets capacity-constrained runways during high-intensity runway operations and applies to very large, large and possibly medium airports.

NOTE: This is an "Initial" objective to provide advance notice to stakeholders. Some aspects of the objective require further validation.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (Not yet defined)	See list of airports in MP Level 3 Implementation Plan - Annexes

Timescales:	**From:**	**By:**	**Applicable to:**
IOC used for Analytics functioning only - not for implementation planning	01/01/2020		
FOC used for Analytics functioning only - not for implementation planning		31/12/2030	

References

European ATM Master Plan

OI step -	[AO-0323]-Static Pairwise Separations (S-PWS) for Departures								
	Enablers -	AERODROME -ATC-42b	REG-0523						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective Objective covering the enabler	WXYZ-003	Not covered in the Implementation Plan

Applicable legislation

-none-

Essential Operational Changes

Airport and TMA performance

SESAR Solution

PJ.02-01-06 - Wake Turbulence Separations (for Departures) based on Static Aircraft Characteristics

ICAO GANP - ASBUs

- none -	

AOP20	Wake Turbulence Separations for Departures based on Static Aircraft Characteristics (S-PWS-D)

Deployment Programme

- none -	

European Plan for Aviation Safety

- none -	

Operating Environments

Airport
Terminal Airspace

Stakeholder Lines of Action (SLoAs)

SloA ref.	Title	From	By
AOP20-ASP01	Install ATC tool to support static pair-wise wake separation for departures		
AOP20-ASP02	Adapt ATC system (DMAN) to use static pair-wise wake separation for departures	21/06/2021	
AOP20-ASP03	Develop procedures for application of static pair-wise wake separation on final approach	21/06/2021	
AOP20-ASP04	Safety Assessment	21/06/2021	
AOP20-ASP05	Training	21/06/2021	
AOP20-ASP06	System in use	21/06/2021	
AOP20-INT01	Regulatory provisions (AMC) for static pair-wise wake separation minima	21/06/2021	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Safety maintained while increasing capacity
Capacity:	Increased airport capacity
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

AOP20-ASP01	**Install ATC tool to support static pair-wise wake separation for departures**	From: -	By: -
Action by:	**ANS Providers**		
Description & purpose:	Install an automated ATC tool (Runway Usage Management sub-system) to enable application of static pair-wise wake separation for departures.		
ATM Master Plan relationship:	[AERODROME-ATC-42b]-Airport ATC tool to support static pair-wise wake separation (S-PWS) for departure operations		
Finalisation criteria:	1 - ATC tool installed.		
AOP20-ASP02	**Adapt ATC system (DMAN) to use static pair-wise wake separation for departures**	From: 21/06/2021	By: -
Action by:	**ANS Providers**		
Description & purpose:	Adapt DMAN to use reduced, pairwise separation for departing aircraft, based on configurable, static parameters.		
ATM Master Plan relationship:	[AERODROME-ATC-42b]-Airport ATC tool to support static pair-wise wake separation (S-PWS) for departure operations		
Finalisation criteria:	1 - The system adapted.		
AOP20-ASP03	**Develop procedures for application of static pair-wise wake separation on final approach**	From: 21/06/2021	By: -
Action by:	**ANS Providers**		
Description & purpose:	Develop ATC procedures as appropriate so as to support the application of static pair-wise wake separation for departures		
Finalisation criteria:	1 - The procedures implemented.		

AOP20	Wake Turbulence Separations for Departures based on Static Aircraft Characteristics (S-PWS-D)

AOP20-ASP04	**Safety Assessment**	From: 21/06/2021	By: -
Action by:	**ANS Providers**		
Description & purpose:	A safety assessment of the changes shall be developed in coordination and synchronisation with all concerned stakeholders. This safety assessment shall be delivered to the competent authority.		
Finalisation criteria:	1 - Safety assessment has been developed and delivered to the competent authority.		
AOP20-ASP05	**Training**	From: 21/06/2021	By: -
Action by:	**ANS Providers**		
Description & purpose:	Train the air traffic controller on static pair-wise wake separation for departures.		
Finalisation criteria:	1 - Training has been performed		
AOP20-ASP06	**System in use**	From: 21/06/2021	By: -
Action by:	**ANS Providers**		
Description & purpose:	Once the systems have been updated, safety assessment delivered and accepted, training has been completed, the system is in operational use		
Finalisation criteria:	1 - The system has been put into service		
AOP20-INT01	**Regulatory provisions (AMC) for static pair-wise wake separation minima**	From: 21/06/2021	By: -
Action by:	**EASA**		
Description & purpose:	A regulatory change as per the RECAT-PWS-EU Safety Case Ed. 1.4 has been submitted to EASA and is under review. Pairwise separation is expected to become an EASA AMC to Req. ATS.TR.220 Application of wake turbulence separation from Reg. EC 2017/373 Annex IV Part-ATS.		
ATM Master Plan relationship:	[REG-0523]-Regulatory provisions (AMC) for static pair-wise wake separation minima (S-PWS)		
Finalisation criteria:	1 - Relevant AMC has been published		