



**Thirtieth Regional Aviation Safety Group — Pan America Executive Steering Committee Meeting
(RASG-PA ESC/30)**

Baltimore, D.C., United States, 22 to 23 March 2018

Agenda Item 3: Items/Briefings of Interest to the RASG-PA ESC

RASG-PA UPSET PREVENTION AND RECOVERY TRAINING (UPRT) WORKSHOP

(Presented by the secretariat)

EXECUTIVE SUMMARY	
This working paper present to the RASG-PA ESC/30, a proposal to carry out an Upset prevention and recovery training (UPRT) Workshop in Sao Paulo, Brazil, from 05 to 06 June 2018, to qualify operations inspectors of CAR/SAM Region States, so that they can start the UPRT implementation in their respective States.	
Action:	Take note of this WP an its Appendix A and approve the proposal to carry out the UPRT Workshop and explore ways to fund its related costs
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety
<i>References:</i>	<ul style="list-style-type: none">• Annex 1 – <i>Personnel licensing</i>• Annex 6 Part I – <i>Operation of aircraft – International Commercial Air Transport - Aeroplanes</i>

1. Introduction

1.1 Between 2006 and 2010, aeroplane accidents resulting from a loss of control in flight (LOC-I) event were the leading cause of fatalities in commercial aviation. Recognizing the need to identify and effectively implement mitigating strategies, the prevention of aeroplane upsets quickly became an ICAO priority.

1.2 Following extensive studies of the LOC-I phenomena, in collaboration with Civil Aviation Authorities (CAAs), aviation accident investigative bodies, LOC-I focus groups, industry associations, original equipment manufacturers (OEMs), and subject matter experts from around the world, it became readily apparent that deficiencies in current training practices were contributing factors in most aeroplane upset-related accidents.

1.3 Consequently, ICAO introduced improvements to existing Standards and Recommended Practices (SARPs) through Amendment 172 to Annex 1 and Amendment 38 to Annex 6 Part I. The UPRT standards and recommended practices were adopted by the ICAO Council on **3 March 2014**.

1.4 Through Amendment 3 to the PANS-TRG, guidance material also was introduced to support aeroplane upset prevention and recovery training (UPRT) requirements.

1.5 On the other hand, RASG-PA in 2010 identified as one of the three main data-driven risk areas the Loss of Control In-Flight/LOC-I. Since then several safety enhancement initiatives have been developed. Out of 5 developed DIPs by RASG-PA, 4 are active now; one of them DIP LOC-I: 196 was oriented to conduct effective UPRT in realistic scenarios, and using qualified flight simulator training devices checklists. The checklists were completed and distribute to operators.

2. Current ICAO UPRT's standards and recommended practices, procedures and guidance material

2.1 UPRT is not optional. It is a requirement for the Multi-crew pilot licence (MPL) as well as for those pilots receiving type rating training or commercial air transport operator-specific initial and recurrent training. It is also recommended for pilots undergoing training towards the issuance of Commercial pilot licence (CPL).

2.2 Through Amendment 172 to Annex 1 and Amendment 38 to Annex 6 Part I, provisions were included in: Annex 1, Paragraph 2.1.5 - Requirements for the issue of class and type ratings [2.1.5.2 d)]; Paragraph 2.4 – Commercial pilot licence and Paragraph 2.5 – Multi-crew pilot licence appropriate to the aeroplane category and Annex 6, Part I, Paragraph 9.3 – Flight crew member training programmes.

2.3 Amendment 172 to Annex 1 introduced UPRT provisions for:

- ✓ Multi-crew type rating on flight simulation training devices (FSTD); and
- ✓ Multi-crew pilot licence (MPL) on aeroplanes

2.4 Amendment 172 to Annex 1 also introduced a UPRT recommended practice for:

- ✓ Commercial pilot licence (CPL) on aeroplanes

2.5 Amendment 38 to Annex 6 Part I included provisions for flight crew training – Commercial air transport training programmes: Initial and recurrent.

2.6 Amendment 3 to the Procedures for Air Navigation Services – Training (PANS-TRG) added a new Chapter 7 to PANS-TRG, which contains high-level procedures for UPRT, with on-aeroplane and FSTD training guidance, as well as for instructor qualifications.

2.7 While the industry moves towards introducing improvements to FSTD models and instructor operating station (IOS) design. Approved Training Organizations (ATOs) shall conduct all FSTD training in an FSTD qualified to an appropriate level in accordance with the Civil Aviation Authority rules (Doc 9625 – Manual of criteria for the qualification of flight simulation training devices refers) and approved for each intended training task. Detailed guidance on the technical requirements and on the instructor operating station functions and tools for UPRT can be found in Doc 9625, Volume I. **3.**

3. UPRT Implementation

3.1 Even though the UPRT standards and recommended practices were adopted by the ICAO Council on **3 March 2014**, these standards have not been implemented yet posing a serious risk to the air transport operation as it was defined during the period 2006 - 2010.

3.2 To foster the UPRT implementation, a two (2) day UPRT workshop is being scheduled in Sao Paulo, Brazil, from 05 to 06 June 2018, with the participation of CAE Canada, the Federal Aviation Administration (FAA) of United States and the ICAO Offices for the SAM and NACC Regions. The purpose of this workshop is to qualify operation inspectors of CAR/SAM States on UPRT approval of air operators and approved training organization (ATOs), as well as of flight simulators and aeroplanes dedicated to provide this type of training.

3.3 The qualification of operation inspectors will enable States to initiate the implementation of Standards and Recommended Practices adopted by ICAO Council on 4 March 2014, corresponding to Annex 1 – Personnel Licencing, and to Annex 6 Part I – International Commercial Air Transport — Aeroplanes.

3.4 In this sense, the implementation of referred Standards and Recommended Practices, supported by orientation texts, has the purpose to reduce accidents by loss of control in flight (LOC-I). The safety benefit of UPRT is that pilots are trained to avoid and, if necessary, recover from upsets with a resulting decrease in the number of LOC-I related fatalities.

4. Action required

4.1 To avoid fatalities in the future due to loss of control in flight (LOC-I) accidents, it is strongly recommended to initiate the UPRT implementation as soon as possible. The way forward is to prepare at least one operations inspector for each State. In this sense the UPRT workshop is highly recommended.

4.2 For cost purposes it has been planned to qualify 24 operations inspectors in this first UPRT Workshop, 12 for the NACC Region and 12 for the SAM Region. In the **Appendix** the breakdown of the costs associated with the workshop is attached.

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APPENDIX

Costs associated for conducting the UPRT workshop

Simulators cost

- ✓ Two (2) hours of simulators: USD 600
- ✓ Each session of two (2) hours may accommodate up to three 3 inspectors
- ✓ It is required 8 sessions of two (2) hours, thus the cost for 8 sessions is : **USD 4.800**

Cost for two instructors (FAA)

- ✓ Air tickets: USD 3000 approximately (from Oklahoma to Sao Paulo)
- ✓ Daily subsistence allowance (DSA) : $186 \times 5 \text{ days} = \text{USD } 930$
- ✓ Travel allowance (TA) = 188
- ✓ Total 4.118 for each one (approximately USD 4.200) x 2 participants = **USD 8.400**

Total cost

USD 4.800 (simulators) + 8.400 (instructors) = **USD 13.200**

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