Using Threat and Error Management for UPRT

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Content

1. TEM – Upset Prevention and Recovery
2. TEM - as a Training tool
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THREAT
ERROR
UNDESIRED AIRCRAFT STATE
Upset
Stall

Prevention
Recovery
Nothing to do?
70-100% of crew activities

- Recognize and manage Threats/Errors/Undesired a/c States

- Plan and deploy Countermeasures
Training:

Shift to the application of TEM-countermeasures

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<th>Training Objective: HYD G+B RES LO LVL</th>
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| **TEM briefing**
Discuss expected threats, errors, undesirable a/c states, plan effective countermeasures. |

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| **TEM debriefing**
Review and analyze actually encountered threats, errors and undesirable a/c states. Analyze the effectiveness of applied countermeasures. |
Measuring Crew-Performance

Measuring the application of countermeasures.
Evolution of TEM

- 2002: LOSA DOC 9803
- 2006: FAA AC 120-90 LOSA
- 2006: ANNEX1 PANS TRG DOC 9868 (MPL)

Today: Opportunity to apply TEM for - UPRT - all training
Summary

- TEM is an ideal tool for UPRT
- Effective management of threats, errors and undesired aircraft states requires to focus on **countermeasures**
- Application of countermeasures enables crews to Prevent and Recover UAS, even to handle the „unforeseeable“
- ICAO and the industry should harmonize the terminology used in Annex 1 + PANS TRG documents and develop a consistent set of TEM countermeasures/competencies.
Thank you!

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