



## **LOC-I and UPRT Workshop**

Lagos, Nigeria, 18-19 November 2019

### **Creating Competency-Based UPRT Scenarios**

**Upset Prevention and Recovery Training has been introduced into most civil aviation regulations as a means of reducing Loss of Control accidents. The regulations are generally based on ICAO Manual 10011, which specifies the curriculum contents for academic and skill-based training, and the overall provisions for implementing UPRT.**

However, simply meeting compliance mandates alone does not guarantee that the training program develops and maintains the required competencies to recognize and prevent upset conditions. For example, managing the airplane Angle of Attack, energy or awareness or the trim state often require specific training in both academics and in the simulator. This clearly requires a more dedicated training methodology to prepare pilots to deal with related situations during flight.

**Participants in the workshop will have the opportunity to interact with industry experts on UPRT, with the goal of developing guidelines and examples of Competency-Based training UPRT scenarios.**

#### **Workshop Leaders**

**Dr. Sunjoo Advani**

**International Development of Technology IDT/ICATEE**

In 2009, Dr. Advani initiated the Royal Aeronautical Society working group ICATEE, a team of 75 members that defined the fundamental training and technology requirements for UPRT. This was supported by ICAO and led to the creation of ICAO 10011, the Manual on Aeroplane UPRT. He currently supports several airlines in implementing Competency-Based UPRT programs.

**Dr. Jeffery Schroeder**

**Federal Aviation Administration FAA**

Chief Scientific and Technical Advisor Simulation System

**Capt. Robert Burke**    **Federal Aviation Administration FAA**

Group Manager, Training and Simulation Group

## **FIRST DAY**

### **Workshop Structure**

#### **1. Introduction**

A general introduction on the provisions of UPRT will be given. The primary focus will be on clearly explaining the causal factors of UPRT, and the categories in which they occur. The general provisions of the ICAO Manual 10011 will be pointed out.

Categorically, the main causes of aircraft upsets are a) Environmental, b) System Anomaly and c) Pilot-induced. These may occur at LOW or HIGH altitudes, requiring a different form of intervention.

#### **2. Q & A**

Attendees may ask questions regarding the presentation, and we will answer these.

#### **3. Break-out sessions. Plenary discussion at the end.**

Depending on the number of participants, six tables will be formed, with around 5-8 persons per table. Each table is assigned a "category" from the above, and may choose "low-altitude" or "high-altitude".

##### **3.1 Scenarios**

The first task will be to define one or two scenarios based on the assigned category. They will have to think through with specific objectives, which will be given at the start:

- Do NOT try to simply re-create an event from history
- Think about the skills and knowledge that you are trying to train in recognizing and preventing these events, based on the threat environment

Two selected tables will present their findings.

##### **3.2 Complexity**

Now, the tables will be asked to introduce additional complexity to their scenario(s). The objective is to ensure that there is training benefit to each pilot undergoing such training. Complexity can include academic or skill-based validation. This is to ensure that either novice or experienced pilots attain the benefits intended from such a program.

Two other selected tables will present their findings.

Now, we group the tables into three bigger tables. The next two questions are a bit more complex and require clear thinking. Discussion in larger groups with more scenarios available is helpful.

### **3.3 Process**

Now, think about the process you went through in defining what you just did. In other words, it is not just about the outcome, but the thought process that went into it. Try to document or illustrate that process. Which elements did you consider? What factors play a role in defining the scenario?

One or two tables present their findings

### **3.4 Competencies/KSA's**

The world is shifting increasingly towards KSA's or competencies. The final task is to think about bring these into the process of scenario design. We allow the participants to think through the process from a competency perspective, noting that resolving upsets has to do with Knowledge, Situation Awareness, Decision Making, Flight Path Management, etc. The objective is now to make people realize that these essential steps allow you to develop a content-rich training program that has greater training value. With operational data from actual observations, these scenarios can be further refined. Think also about what you would need to teach your instructors in order to properly train this.

Two or three tables give a final presentation.

## **SECOND DAY**

The second day will be devoted to conferences on chosen topics in accordance with the programme.