International Civil Aviation Organization
Asia and Pacific Office

Eleventh Meeting of the Asia Pacific Accident Investigation Group (APAC-AIG/11)

(Singapore, 16 – 17 August 2023)

Agenda Item 4: Enhancing Accident Investigation Capabilities

UNMANNED AERIAL SYSTEM INVESTIGATION TRAINING

(Presented by Singapore)

SUMMARY

This paper shares TSIB's recent learnings from the Unmanned Aerial System (UAS) Investigation training course in Singapore.

1. INTRODUCTION

1.1 The Transport Safety Bureau of Singapore (TSIB) engaged a training institution to conduct an unmanned aerial system (UAS) investigation training for its investigators on 6 to 10 February 2023. This training included an introduction to the world of Beyond Visual Line of Sight (BVLoS) unmanned aircraft operations.

2. DISCUSSION

2.1 The proliferation of unmanned aerial vehicles (UAVs) has become fast and furious in recent years and caused some accidents and serious injuries. As UAV falls under the category of aircraft, occurrences involving UAV that results in injury and/or damage to the UAV or other property, may warrant an Annex 13 investigation.

2.2 The operating environment and system of the UAS flights, as well as the regulatory framework, are different from manned aircraft and presented new challenges to the conduct of investigation relating to UAV. For instance, cross-border UAV may have the operator of the UAV controlling the flight in State A and the UAV may crash in State B. In such a situation, the State of Occurrence, that is State B, may have to involve the relevant entities in State A in the conduct of the investigation relating to the crash.

2.3 The risks posed by different types of UAVs, such as hobbyist type UAV and commercial type UAV, are different. With limited resources, it is a challenge to investigate all occurrences relating to UAVs and hence the accident investigation authority must be able to decern the types of UAVs occurrences which are required to investigate.

2.4 It is important for safety investigators to understand the operating systems of UAS and the challenges faced in conducting UAS investigations. To equip its investigators with the knowledge and skill to conduct investigation relating to UAS, the TSIB engaged a commercial entity to conduct the UAS investigation training as this is a relatively new area.

2.5 The 4.5-day course covers topics such as design and functionality of the human interface, remote piloting, situational awareness in unmanned aviation, accident investigation, etc. The TSIB investigators found the UAS investigation course very useful as it provided good knowledge on understanding of the RPAS BVLoS operations as well as case studies to investigate UAS occurrences.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to understand the different operating environment, aircraft system and regulatory framework for UAV and to equip their investigators with the skills and knowledge for the conduct of investigation involving UAV.

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