



International Civil Aviation Organization

**Third Meeting of the Asia Pacific Accident Investigation Group
(APAC-AIG/3)10**

(Colombo, Sri Lanka, 23-24 June 2015)

Agenda Item 6: Regional Cooperation

JOINT WRECKAGE MAPPING EXERCISE

(Presented by Macao, China)

SUMMARY

To build and maintain investigation skills of our investigators, Macao, China had organized a joint wreckage mapping exercise from 25 March to 26 March 2015. This exercise was joined by China, Hong Kong, China and Singapore.

1. INTRODUCTION

1.1 This paper highlights the benefits of joint exercise in addition to basic and internal training. It also reflects the importance of local and regional cooperation.

2. DISCUSSION

Objectives

2.1 During the investigation of aircraft mishaps, site safety assessment and mapping of wreckage are usually required prior to its collection and detailed examination. This recording phase can be time-consuming, but could be shorten by the help of advance equipment and more practices during peace time.

2.2 In order to build and maintain investigation skills of investigators, the Civil Aviation Authority, Macao, China (AACM) organized a joint mapping exercise in March 2015. The objectives of these trainings are:

- To fine tuning the mapping procedures;
- To be familiar with the mapping procedures and relevant equipment;
- To explore and evaluate some advance surveying equipment suitable for the purpose;
- To establish cooperation mechanisms with local entities that could support for mapping;
- To exchange experience and knowledge in wreckage mapping with foreign entities.

Participants of the Joint Mapping Exercise 2015

2.3 Counterparts from the following administrations and agencies were invited to join the Joint Mapping Exercise 2015:

- Air Accident Investigation Bureau of Singapore (AAIB)
- Civil Aviation Administration of China (CAAC)
- Civil Aviation Department, Hong Kong, China (CAD) Cartography and Cadastre Bureau, Macao, China (DSCC)

Exercise Agenda

2.4 The agenda of the two days exercise are as follows:

- Exercise briefings
- UAV aerial recordings by AAIB
- 3D site scanning by AAIB
- Mapping and documenting the wreckage
- Data plotting & analysis
- Exercise debriefings

Cooperation with participants

2.5 AAIB Singapore gave a demonstration showing how UAV and 3D Scanner could provide significant enhancement to traditional methods of aircraft accident investigations. It showed that the aerial recording captured by the UAV was quite useful for the site safety assessment as well as route and obstacle verification. Through-out the demonstration, each participant had better references to evaluate the practicability of such advance equipment for their State/region.

2.6 In addition to the UAV & 3D Scanner demonstration, participants from different countries/regions were allocated into two groups to execute the exercise in two different methods, namely the “Straight-line system method” and “Laser Measurement method”, which gave a very good opportunity for participants to share experiences and exchange ideas. Ultimately, closer cooperation within this region was being established through this exercise.

Local Coordination with Cartography and Cadastre Bureau (DSCC) of Macao

2.7 DSCC is a Bureau under the Secretariat for Transport and Public Works. Its function includes performing photogrammetric survey and mapping of lands in Macao, maintaining the cartographic database up-to-date, supervising map making. They also support other departments of the Macao Government by studying and giving technical opinions on cartography.

2.8 DSCC equipped with professional site surveying tools and precise differential GPS. They maintain the most up-to-date 3D and geometric map database of Macao. They have skilled and experienced professional staff on mapping and data gathering and could provide accurate plots promptly. Therefore, we consider the DSCC is a valuable resource for providing assistance to wreckage mapping in case of aircraft accident investigation.

2.9 Being the public departments under the same Secretariat, it is beneficial to utilize the existing resources between departments and avoid buying and maintaining duplicate sets of equipment serve for same purpose. We took this opportunity to build up our cooperation mechanisms for wreckage mapping.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to note the content of this paper.

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