International Civil Aviation Organization

Sixth Meeting of the Asia/Pacific Aerodrome Design and Operations Task Force (AP-ADO/TF/6)

Langkawi, Malaysia, 18 - 21 February 2025

Agenda Item 4: Planning, Design and Construction of Aerodromes

OBSTACLE LIMITATION SURFACES: SAFETY OVERSIGHT PROGRAM FOR CONTROLLING OBSTACLE IN THE VICINITY OF AN AERODROME

(Presented by Malaysia)

SUMMARY

This paper presents the Safety Oversight Program implemented in Malaysia to ensure the safety of aircraft operations in a healthy and thriving obstacle environment in the vicinity of an aerodrome, so as not to impede the surrounding urban developments.

1. INTRODUCTION

1.1 The implementation of the Safety Oversight Program for obstacles in Malaysia started when the State first published the Civil Aviation Act in 1969. Part IV of this Act outlines the base framework to control obstacles in the vicinity of aerodromes. Today, the Civil Aviation Authority of Malaysia (CAAM) regulates a range of obstacles, from erecting structures such as transmission towers to provide power in rural areas, to high-rise buildings for large-scale urban developments, such as hotels and residential properties. All the while safeguarding the aircraft operations of up to 42 aerodromes in Malaysia, and on average, processing 170 applications and approvals monthly.

1.2 In ensuring the effectiveness of these implementations, the CAAM has published regulations, directives and guidance materials for applicants to use as a reference to manage their obstacles and to assist them with all the necessary steps in obtaining approval. Additionally, internal procedures instigated provide a meticulous assessment of all obstacle approval applications, including coordination among staff at various levels and across different divisions within CAAM.

2. DISCUSSION

2.1 The implementation of the Safety Oversight Program for obstacles in Malaysia is in two parts, the approval for obstacles and the surveillance of obstacle compliance. The first part, the approval for obstacles, is a streamlined internal process, where the CAAM has incorporated the use of digital online tools such as Google Drive, and Google Sheets to provide a seamless transition of work from one person to another. This online tool also provides access to users, wherever there is an internet connection, and therefore staff of different divisions are able to interact and work with the same document no matter their location. The combination of Google Drive and Google Sheets provides a facility to store data and coordinate work, involving calculations and verifications.

2.2 As mentioned earlier, during the assessments for approval of obstacles there is a required coordination between two divisions within the CAAM, which are the Air Navigation Services and Aerodrome Division, and the Air Navigations Services Technical Division. Both playing a pivotal role in the approval process, the Air Navigation Services and Aerodrome Division are in charge of the administration of the submissions, and calculation of Obstacle Limitation Surface limits. While, the Air Navigation Services Technical Division is then tasked to verify these calculations for the purpose of preserving current flight procedures and record related obstacles in the event of future reviews thereof. The below figure is the Google sheet template used for coordination between divisions:

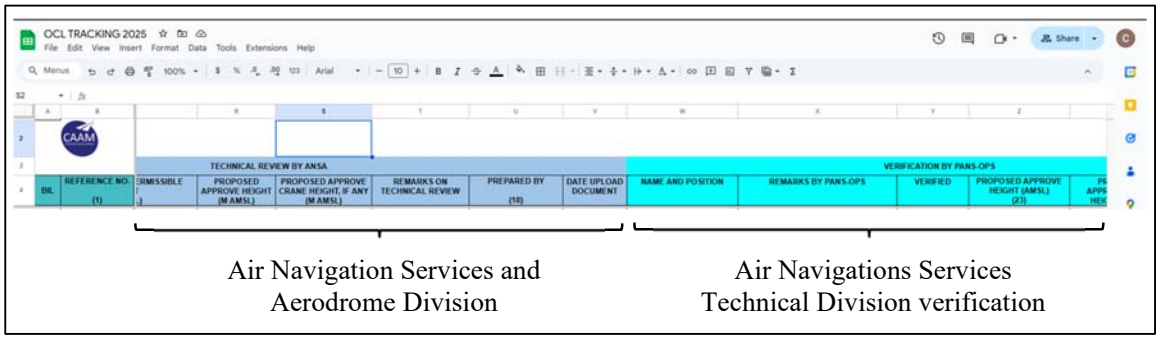

Figure 1: Image of Google sheet used for coordination purposes

2.3 Upon issuing approval for obstacles, the applicants are obligated under the terms and conditions imposed in their approvals to follow the limitations set forth, such as obstacle height, provisions for obstacles to be marked and/or lighted, and progress notifications to the CAAM. These notifications to CAAM are imperative for the regulators to initiate surveillance activities of the obstacle to ensure the applicant does not breach any State provision.

2.4 These surveillance activities are done by inspection of the building height via as-built drawings and/or joint survey with a licensed surveyor, and a focus on the serviceability and type of obstacle lights provided for the obstacle. The pilot surveillance activity conducted on the 19th October 2024 in the vicinity of Penang International Airport, yielded a positive outcome whereby obstacle owners/managers were given more awareness of the importance of adhering to civil aviation requirements that were often overlooked by them.

2.5 In conclusion, the safety oversight program implemented for controlling the growth and erection of obstacles in the vicinity of the aerodrome is in line with the critical elements set forth by ICAO. It should be further enhanced to improve the obstacle control process or procedure with a consideration of the end user in mind where it can raise awareness and subsequently become one of the key factors in promoting a positive safety culture.

Recommendation on the Updates to ICAO Documents

2.6 The following are the concerns identified which required further deliberation:

2.6.1 Doc 9137, Part 6, Control of Obstacle, clause 2.2.4, identified that the ultimate responsibility for limitation and control of obstacles must, in practice, rest with the airport operator.

> *"2.2.4 Ultimate responsibility for limitation and control of obstacles must, in practice, rest with the airport operator. This includes the responsibility for controlling obstacles on airport property and for arranging the removal or lowering of existing obstacles outside the airport boundaries. The latter obligation can be met by negotiations leading*

to purchase or condemnation (where authorized) of air easements or title to the property."

2.6.2 Clarification is required to ascertain whether the limitation and control of obstacles must rest with the airport operator as mentioned in the clause above, and does this includes areas beyond the airport boundaries. For instance, the role of limitation and control of obstacles includes actions that require the ability to give authorizations for developments, whether it is a government or privately owned project, and such impact should be under the purview of the State. Thus, in the matter of best practices, only obstacles within the airport boundaries may fully be the responsibility of the airport operator.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Note the information contained in this paper;

b) Encourage member States to share their practice and experience on the surveillance of obstacles in the vicinity of an aerodrome, and any enforcement procedures; and

c) Discuss any relevant matters as appropriate.

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