The Fifth Meeting of the Aerodromes Operations and Planning Sub-Group (AOP/SG/5)

Video Teleconference, 29 June to 2 July 2021

Agenda Item 4: Provision of AOP in the Asia/Pacific Region

- **Planning & Design of Aerodrome**

THE DESIGN CONCEPTS TO IMPROVE THE CONSTRUCTION AND OPERATION OF WATER AERODROME

(Presented by China)

SUMMARY

In recent years, many water aerodromes have been constructed and planned in China. During this process, the design concepts of the water aerodrome is gradually formed. This Information Paper intends to share the design concepts with partners in Asia/Pacific region to improve the design and construction quality of water aerodromes.

1. INTRODUCTION

1.1 Water aerodrome is a dedicated area of water used or intended to be used for the landing and takeoff of seaplanes, water taxiing, ramp service, together with shoreline, and onshore facilities. Water aerodrome is an important category of general aviation airport, and in recent years it is attracting more and more attention in China. With rich experience obtained by water aerodrome construction practice, we would like to share some seaplane design concepts to improve the level of water aerodrome construction and operation.

2. DISCUSSION

2.1 There are 4 water aerodromes in China: Shanghai Jinshan Water Aerodrome, Jingmen Zhanghe Water Aerodrome, Suzhou Luzhi Water Aerodrome, and Heze High-tech Zone Water Aerodrome. There are also dozens of water zone for seaplane take-off and landing, such as Sanya and Haikou in Hainan, Beihai in Guangxi, Datong in Shanxi, Heyuan and Panyu in Guangdong.

2.2 In general, water aerodrome has the following characteristics, less land occupation, less construction investment, less operating costs, minor environmental impact and flexible take-off and landing. Compared with other types of airports, it locates much near to the city center and tourist attractions. The design concepts of water aerodrome includes intensive land usage, joint construction and shared benefits, comprehensive development, and phased construction.

2.3 Intensive land usage refers to the reasonable allocation of shoreline facilities and landside facilities to minimize the land occupation by water aerodrome. Zhenjiang Dalu Water Aerodrome will use barges as passenger service facilities, and it will greatly reduce the land occupation of landside facilities.

2.4 Joint construction and shared benefits refers to the water aerodrome which is integrally constructed with the marina, the airport and the heliport. Owing to the shortage of land and sea resources in Shenzhen, the water aerodrome design is combined with the marina design, to achieve the full utilization of land and sea resources, meanwhile realizing the connection with other water transportation. Suzhou Luzhi General Aviation airport jointly built a water aerodrome and a heliport to expand the function of the airport and thus obtain better economic benefits.

2.5 Comprehensive development refers to a further boost to general aviation industry based on seaplane aerodromes in addition to flight activities. Jingmen Zhanghe Water Aerodrome has a 3,000m×200m water runway and it is the largest water aerodrome in China. This water aerodrome has been used for the test flight of the AG600 Kunlong giant seaplane. Around Heze High-tech Zone Water Aerodrome, an industrial park of SeaRey LSX Amphibian is planned to be built, it will serve for the aircraft manufacture and test flight.

2.6 The water aerodrome is flexible and it is more suitable for phased construction. In the short-term planning, the facilities are simple and the scale is appropriate to meet the main business needs. At the same time, the site choosing and design should reserve more possibilities for the long-term development of the water aerodrome. As for the long-term planning, according to the growth of aviation portfolio, the terminal building or barges should be timely selected and constructed. For example, Shanghai Jinshan Water Aerodrome has built a simple floating dock that can only dock 3 seaplanes but reserved space for further expansion. In the future, the large seaplane dock will be built that can dock dozens of seaplanes and include passenger service facilities

2.7 Water aerodromes have wide development prospects in China. CAAC will continue to practice the design concepts of intensive land usage, joint construction and shared benefits, comprehensive development, and phased construction. Meanwhile, CAAC will also research the new design concepts of the water aerodrome and share them with APAC States, remaining open to suggestions to improve the concepts.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this paper.

—END—