International Civil Aviation Organization

First Meeting of the APAC ANSP Committee (AAC/1)

Bangkok, Thailand, 17 – 18 April 2023

Agenda Item 3: Work Program

OPTIMIZING USER PREFERRED ROUTE IMPLEMENTATION

(Presented by Indonesia)

SUMMARY

This paper presents

The implementation of user-preferred routes (UPR) has brought significant benefits to the aviation industry, including improved efficiency, reduced fuel consumption, and increased safety. Indonesia proposed implementation of UPR by quarter 3rd, 2023.

Implementing user-preferred routes (UPR) across different FIRs has encountered challenges related to the differences in air traffic control systems, procedures, and communication protocols. To address these challenges, there is a need for collaboration, standardization, and the development of a unified platform or system for route planning and implementation.

By collaborating with ANSPs, it is possible to optimize the implementation of user preferred routes, which can lead to improved efficiency, reduced congestion, and increased safety in the aviation industry.

1. INTRODUCTION

1.1 The implementation of user preferred routes (UPRs) is a key feature of modern air traffic management systems, which aims to provide more efficient and flexible airspace management. UPRs allow pilots to request a specific route, which can deviate from the standard air traffic control routes. However, implementing UPRs can be challenging, especially when neighboring Flight Information Regions (FIRs) are involved.

1.2 Indonesia received positive feedback from IATA and airlines with the optimization of the UPR utilization, and some inputs from internal operations to enhance UPR procedures. The whole gradual process of UPR trial operation since 2020, has brought Indonesia's self-confidence to fully implement UPR. Furthermore, a plan and discussion have been initiated to establish the implementation of UPR by quarter 3rd, 2023.

1.3 Implementing such a system becomes challenging when it involves neighboring Flight Information Regions (FIR). In this paper, we will discuss the challenges of implementing a user-preferred route system with neighboring FIR and how to overcome these challenges.

2. DISCUSSION

2.1 Implementing a User-Preferred Route (UPR) in Indonesia would involve creating a new flight route system that allows pilots to choose their own flight paths based on their preferred routes.

However, for the UPR to be effective, it is essential that adjacent FIRs also support it. This is because flights entering or exiting Indonesian airspace would have to coordinate with the air traffic control centers of the adjacent FIRs.

2.2 The primary challenge in implementing a user-preferred route system with neighboring FIR is the difference in air traffic control rules and regulations. Each FIR has its own set of rules and regulations, which can make it difficult to implement a system that satisfies both sets of regulations. Additionally, there may be differences in airspace classification, which can lead to conflicts in route selection.

2.3 Lack of communication and coordination between neighboring FIR are the anothers challanging. This can lead to inefficiencies in routing and delays in flight times. Furthermore, it can also cause confusion and inconsistencies for pilots and air traffic controllers. This can be complicated by differences in languages, procedures, and technologies used by different FIRs. To overcome this challenge, standardized communication protocols and procedures can be established, and air traffic controllers can receive cross-border training to improve their communication skills.

2.4 Another challenge is the need to ensure that UPRs do not conflict with neighboring FIRs' airspace structure and operations. This requires a thorough analysis of the airspace structure and the identification of potential conflicts. Solutions to mitigate these conflicts include adjusting the UPRs, modifying neighboring FIRs' airspace structures, or creating new coordination procedures.

2.5 The implementation of UPRs can also impact the capacity and safety of the airspace. UPRs may require more frequent coordination and communication between different air traffic control centers, which can increase workload and potentially impact safety. To ensure safe and efficient operations, airspace capacity and safety assessments should be conducted before implementing UPRs.

2.6 To overcome the challenges of implementing UPRs with neighboring FIRs, the following solutions can be considered:

2.6.1 Develop a flexible user-preferred route system that can adapt to the different rules and regulations of neighboring FIR. This can be done by creating a set of guidelines that consider the specific requirements of each region and providing pilots with a range of route options that satisfy both sets of regulations.

2.6.2 Standardized communication protocols and procedures can improve coordination and communication between different air traffic control centers. This can include the use of common phraseologies and standardized procedures for handling UPRs.

2.6.3 Collaborative planning between neighboring FIRs can help to identify potential conflicts and develop solutions to mitigate them. This can include the creation of joint working groups or the establishment of cross-border airspace management teams.

2.6.4 Airspace capacity and safety assessments should be conducted before implementing UPRs to ensure that they do not impact the safety or capacity of the airspace.

2.7 Collaboration with adjacent FIRs for UPR implementation can help Indonesia align with international standards and best practices in air traffic management. This can enhance the country's reputation in the global aviation industry and promote greater trust and cooperation with other countries.

2.8 Therefore, supporting adjacent FIRs is crucial for the successful implementation of UPRs in Indonesia. It requires coordination, communication, and collaboration between air traffic control centers in different countries to ensure that the system works effectively, and flights can move seamlessly across FIR boundaries.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Note the information contained in this paper;

b) Provide inputs to Indonesia to optimize UPR implementation;

c) Initiate discussion in implementing UPR in the region (cross border); and

d) Discuss any relevant matters as appropriate.

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