

**53<sup>rd</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGIONS**

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**AGENDA ITEM 3.3: AIR NAVIGATION MATTERS**

**CONSIDERATION OF MINIMUM PATH IN GANP 2019**

(Presented by Japan)

**SUMMARY**

Twelfth Air Navigation Conference (AN-Conf/12) recommended ICAO to identify modules in Block 1 considered to be essential for implementation at a global level in terms of the minimum path to global interoperability and safety. As Asia/Pacific Region has pursued Seamless ATM plan to implement in harmonized and synchronized manner, this paper urge ICAO to consider these essential modules in minimum path in the light of implementation, so as to be able to address as a part of national plan of each state.

## CONSIDERATION OF MINIMUM PATH IN GANP 2019

### 1. INTRODUCTION

1.1 In order to address air traffic growth in future, the improvement of air navigation service is essential. Therefore 38<sup>th</sup> ICAO Assembly endorsed Aviation System Block Upgrades (ASBUs) in Global Air Navigation Plan (GANP) for globally harmonized upgrade of Air Navigation Service and ICAO Asia/Pacific region adopted Seamless ATM Plan for regional implementation of GANP and made arrangement for proceeding collaboratively the advancement of ATM with considering regional situation.

1.2 Meanwhile, in 2012, Twelfth Air Navigation Conference (AN-Conf/12) adopted the recommendation 6/12, which describes “*ICAO identify modules in Block 1 considered to be essential for implementation at a global level in terms of the minimum path to global interoperability and safety, with due regard to regional diversity, for further consideration by States.*” This encourages that Block 1 Modules essential for implementation at a global level are identified and implemented by contracting states regardless of special needs in each contracting state and region.

1.3 Draft 5<sup>th</sup> edition of GANP describes the minimum path more explicitly than current 4<sup>th</sup> edition of GANP as follows:

- a) As it is expected that these Modules may eventually become the subject of ICAO Standards with mandated implementation dates, the concept of “minimum path” to global interoperability and safety is introduced.
- b) Although all ASBU Modules are equally important, it is recognized that:
  - ◆ some Modules must be implemented globally, and therefore must be designated as part of the minimum path to achieve global interoperability;
  - ◆ deployment of such Modules in the earliest available time frame will result in maximum benefits for the aviation stakeholders; and
  - ◆ implementations of such Modules should take place around the same time periods.
- c) The development of suitable high level principles or guidelines to identify essential Modules at a global level will be necessary.

### 2. DISCUSSION

2.1 GANP is a crucial guidance to encourage globally harmonized improvement of Air Navigation Service, and the contracting states promoted the modernization of each service. Japan Civil Aviation Bureau (JCAB) has also understood the objective of GANP and actively worked to introduce various measures identified in a Japanese future vision “CARATS (Collaborative Actions for Renovation of Air Traffic Systems)” in consideration of both domestic needs and GANP roadmap together with stakeholders.

2.2 There are 90 airports and more than 4,000 flights are operated every day in Japan. However, airspace over national land is not so wide, thus it is quite congested. In order to enhance effective and efficient use of airspace, it is necessary to implement appropriate measures by considering the domestic needs, explaining the cost effectiveness of measures and gaining the consensus among stakeholders. In addition, JCAB provides air navigation service for vast oceanic airspace. In order to improve air navigation service in such remote area, it is required to actively introduce advanced technologies and operations through demonstration and validation. So JCAB has promoted the discussion and information sharing with adjacent states through bi-lateral meeting for the development to introduce new harmonized air navigation service.

2.3 JCAB has made efforts to improve efficiency of air navigation service in harmonized manner with adjacent states with focusing primarily domestic benefit the situation seems almost same as other states while degree of domestic and international interest might be different depending on each state.

2.4 Regarding draft 5<sup>th</sup> edition of GANP circulated as state letter, it is expected that some Modules which must be implemented globally are identified as minimum path with mandated implementation dates. The concept of minimum path is necessary in order to achieve globally harmonized improvement of air navigation service and will contribute to encourage the investment and the deployment of advanced systems by identifying the implementation date, in other words, the standardization date. However, it might force to introduce less beneficial measures despite a lack of original needs in states and regions.

2.5 So that, it is important to consider following points when introducing minimum path into GANP2019.

- a) When the states make a decision to introduce the module, it is required to show the cost-effectiveness to stakeholders and get consensus from them. In special, technical modules which is difficult to show effectiveness directly by itself only, such as communication infrastructure, needs to devise explanation, for instance, in a way to consider its introduction together with expected operational improvement and show effectiveness.
- b) In order to introduce the new operation, it is also expected to develop and validate dedicated automation systems, establish or rebuild the operational procedure, and conduct trainings to the staffs, as well as to establish the operational certification, upgrade onboard avionics, and plan transfer programme, if necessary.
- c) So, in the light of the implementation, the civil aviation authority and air navigation service provider of each contracting state needs to encourage “What should be done by When?” be identified among stakeholders such as civil aviation authority, air navigation service provider, airspace users, airport operators, manufactures, and military authority, and manage the progress properly.

2.6 Toward GANP 2019 which will start ASBU Block-1 phase, full-fledged discussion will be more activated. As Asia/Pacific region which has pursued Seamless ATM plan to implement harmonized air navigation improvement, it is important to monitor the global streams including discussions regarding mandatory modules and take appropriate measures in a timely manner.

### **3. ACTION BY THE CONFERENCE**

3.1 The Conference is invited to urge ICAO to identify essential Modules at a global level necessary for minimum path and develop high level principles or guidelines in order to ensure achievable implementation in consideration of follows:

- a) The achievable implementation target date should be assigned taking into account the period for research and development, personnel training, development of rules and manuals, deployment of automation systems, coordination with stakeholders, and any necessary works depending each module.
- b) The background information to be identified some modules as minimum path and good practices including cost-benefit performance when possible, should be provided so that each state will be able to explain to the stakeholders and obtain consensus to introduce the identified modules.
- c) The progress of discussion to identify some modules as minimum path should be shared among contracting states as much as possible, so that each state will be able to reexamine the identified modules as minimum path comparing with each national roadmap for the improvement of air navigation services.