International Civil Aviation Organization

Eleventh Meeting of the Air Traffic Management Sub-Group (ATM/SG/11) of APANPIRG

Singapore, 2 – 6 October 2023

Agenda Item 8:   Any other business

IMPROVING ENGLISH RADIOTELEPHONY COMMUNICATION EFFICIENCY UNDER NON-ROUTINE SITUATIONS

(Presented by China and IATA)

SUMMARY

This paper briefs the requirements of ICAO concerning radiotelephony communication, calls attentions to the necessity and importance of improving English radiotelephony communication efficiency under non-routine (emergency) situations, and recommends a scenario-based training method for air traffic controllers and pilots using English as a second language.

1.   INTRODUCTION

1.1   Radiotelephony communication standards, procedures and phraseologies were first stated by ICAO in Annex 10, Doc 4444 in the 1940s, and then continuously revised. Doc 9432 provided examples of application of those phraseologies.

1.2   Data obtained from the ICAO Accident/Incident Data Reporting System (ADREP) database, the United States' National Transportation and Safety Board reports, and the United Kingdom's Mandatory Occurrence Reporting Systems shows that insufficient English language proficiency on the part of the flight crew or an air traffic controller had played a contributing role in the chain of events leading to the accident (ICAO Doc 9835, 2004).

1.3   In ICAO Annex 1, it is required that after 5th March, 2008, aeroplane, airship, helicopter and powered-lift pilots, air traffic controllers and aeronautical station operators shall demonstrate the ability to speak and understand the language used for radiotelephony communications to level 4(operational level).

1.4   ICAO language proficiency requirements stated in ICAO Doc 9835 includes the appropriate application of radiotelephony communication phraseologies and plain language.

1.5   The importance of using correct standardized phraseology cannot be overemphasized, but the importance of using understandable plain language, especially when one or both actors involved are using English as a second language, is less emphasized.

1.6   In ICAO Doc 9835, the inventory of events, domains and sub-domains that characterize the day-to-day communications of air traffic controllers and pilots is given. These "events" represent the situations, routine or non-routine, which all air traffic controllers must be able to handle. Each event may require familiarity with many lexical domains, to which are associated related words, but the lexical domains are not clearly given. Local procedures and phraseologies are allowed to be developed, but

there is no consensus on the plain language being used under non-routine or emergency situations.

2.   DISCUSSION

2.1   IATA acknowledges standards, procedures and recommended practices concerning radiotelephony communication and plain language proficiency put forward and required by ICAO in Annexes and Documents.

2.2   With the recovery of international flights in APAC, several incidents occurred due to inadequate language proficiency in English radiotelephony communication in non-routine, or sometimes emergency situations like engine problem, adverse weather and so on.

2.3   Lack of vocabulary, wrong pronunciation, and accent, all of which contribute to misunderstanding between controllers and pilots, especially when plain language is required for communication. Standardized phraseologies help provide efficient, clear, concise, and unambiguous communications in routine situations, but language problem can arise rapidly when plain language is used under non-routine or emergency situations.

2.4   To improve radiotelephony communication efficiency under non-routine situations, it is necessary to develop a set of "phraseologies" which cover emergency situations (events, domains and sub-domains) which are stated in ICAO Doc 9835.

2.5   IATA plans to cooperate with Air Traffic Management Bureau (ATMB) of Civil Aviation Administration of China (CAAC) and Civil Aviation University of China (CAUC) to develop a manual concerning phraseologies or recommended practices under common emergency situations.

2.6   IATA team recommends the scenario-based training method which simulates various emergency situations. IATA team will develop emergency scenario simulations representing common challenges that arise. The simulations will enable pilots and controllers to practice plain language radiotelephony communications in a safe environment focused on critical language skills like vocabulary, pronunciation, and clarity of expression. Real-life recordings for different emergency scenarios (e.g., engine malfunction, fuel problems) were collected.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

a)   note the information contained in this paper;

b)   note the incidents which occurred recently concerning miscommunication in non-routine or emergency situations due to inadequate language proficiency.

c)   discuss any relevant matters as appropriate.

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