



WORKING PAPER

FOURTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 26 August to 6 September 2024

- Agenda Item 2: Timely and safe use of new technologies**
2.2: Addressing safety risks related to evolving aviation technologies

**EXPERIENCE TO IMPROVE ENGLISH RADIOTELEPHONY COMMUNICATION
PROFICIENCY UNDER NON-ROUTINE SITUATIONS FOR NON-ENGLISH SPEAKERS**

(Presented by China)

EXECUTIVE SUMMARY

This paper presents an approach to improve English radiotelephony communication proficiency under non-routine (emergency) situations and recommends a scenario-based training method for controllers and pilots using English as a second language.

Action: The Conference is invited to:

- a) prioritize English radiotelephony communication proficiency under non-routine situations for non-English speakers;
- b) request ICAO to incorporate, as appropriate, the recommendations and methods of this paper into the business of Air Traffic Management Operations Panel (ATMOPSP); and
- c) ask Member States, air navigation services providers (ANSPs) and aircraft operators to share experience and contribute materials.

1. INTRODUCTION

1.1 Annex 10 - *Aeronautical Telecommunications*, Volume II — *Communication Procedures* and Chapter 12 of *Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) describe the ICAO phraseologies that controllers and pilots should use for radiotelephony communications, mainly under routine situations. Examples are provided in the *Manual of Radiotelephony* (Doc 9432), to help accurate use of those phraseologies.

1.2 *Manual on the Implementation of ICAO Language Proficiency Requirements* (Doc 9835) requires the appropriate use of both phraseologies and plain language.

¹ English and Chinese versions provided by China.

1.3 While the importance of using standardized phraseology is highlighted, the importance of effective use of plain language, especially when one or both persons involved speaking English as a second language, is less emphasized.

1.4 In some Member States, air traffic services (ATS) units and airlines have devised their own phraseologies for various non-routine situations. However, their phraseologies for similar scenarios can vary immensely. Some phraseologies even contain ambiguities and incorrect expressions. This increases the difficulties of communication and the probability of misunderstanding, especially among those who use English as a second language.

2. **DISCUSSION**

2.1 Proper guidance to improve radiotelephony communication efficiency under non-routine situations is needed.

2.2 While standardized phraseologies help provide efficient, clear, concise, and unambiguous communications in routine situations, language problems may arise rapidly when plain language is used under non-routine or emergency situations.

2.3 Misunderstandings between controllers and pilots can arise from a variety of linguistic challenges, including limited vocabulary, grammatic and sentence structural problems and incorrect pronunciation, especially when plain language is required for communication. Without proper guidance and training materials, misunderstanding is likely to occur if controllers and pilots have to use the English language spontaneously under non-routine situations, especially for those who speak English as a foreign language.

2.4 To improve radiotelephony communication proficiency under non-routine situations, it is necessary to develop guidance on phraseology covering common emergency situations. Specific tasks may include:

- a) identifying the most common types of emergency situations;
- b) providing the vocabulary and expressions for dealing with each type of emergency situations;
- c) clarifying ambiguous terms; and
- d) recommending typical sentences and phraseologies for the emergency situations identified.

2.5 It is desirable that a big-data analysis be undertaken on aviation accidents and incidents that have occurred over recent years, and a report be prepared. This will serve as the basis for determining the list of most common emergency situations.

2.6 It is plausible that the civil aviation authorities, air navigation services providers (ANSPs), and aircraft operators of countries whose native language is not English share their manuals, guidance and training materials on phraseologies for non-routine situations. They will be used for analysing disparities in English phraseologies for non-routine situations across different countries.

2.7 It would also be useful to organize seminars, panel meetings and study groups meetings for the preparation of ICAO guidance on English phraseologies for non-routine situations.

2.8 A scenario-based training method may be suitable to provide a simulated communication environment, with a focus on language and communication skills training. It provides an immersive learning experience where real-life recordings are presented to improve listening comprehension. Various topics, accents, rate of speech, and language patterns are essential inputs which help the learners to prepare for future unexpected events that may occur. Generally, the training is individualized and networked, suitable for different training needs.

2.9 China will develop emergency scenario simulations representing common challenges that arise. The simulations will enable pilots and controllers to practice English radiotelephony for non-routine situations focusing on critical language skills such as vocabulary, pronunciation, and communication skills like confirming and clarifying intentions.

2.10 China is ready to exchange experience and share training materials on English radiotelephony for non-routine situations and offer assistance in big-data analysis.

3. CONCLUSION

3.1 The conference is invited to:

- a) prioritize English radiotelephony communication proficiency under non-routine situations for non-English speakers;
- b) request ICAO to incorporate, as appropriate, the recommendations and methods of this paper into the business of Air Traffic Management Operations Panel (ATMOPSP); and
- c) ask member states, air navigation services providers (ANSPs) and aircraft operators to share experience and contribute materials.

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