



International Civil Aviation Organization

**The Third Meeting of the Regional Airspace Safety Monitoring Advisory Group
(RASMAG/3)**

Bangkok, Thailand, 6 – 7 June 2005

Agenda Item 8: Any Other Business

LANGUAGE PROFICIENCY

(Presented by the Secretariat)

SUMMARY

This paper provides information on the new ICAO provisions for operational staff involved in international operations to demonstrate a minimum level of language proficiency by 5 March 2008, and introduces the *Manual on the Implementation of the ICAO Language Proficiency Requirements* (Doc 9835).

The paper highlights the substantial work that needs to be completed by States in the preparation and application of language testing instruments in order to assess the present ability of pilots, radio operators and air traffic controllers to meet the SARPs, and explores issues of aviation language training aimed at enhancing the language skills of operational staff to a level that meets the ICAO provisions.

1. INTRODUCTION

1.1 Between 1976 and 2000, more than 1100 airline passengers and crew lost their lives in accidents in which investigators determined that language problems had played a contributory role. Moreover, numerous incidents involving language issues, including a number of runway incursions, are reported annually.

1.2 The ability to communicate accurately when there is no standard phraseology to cover the situation is critical to safety. In practice this means that, in addition to competency in the use of standard phraseology, pilots, radio operators and air traffic controllers must be able to achieve mutual understanding through the use of plain or general language in order to get their messages heard and understood.

1.3 It is precisely this issue of plain or general language use and the assessment of a suitable level of language proficiency that has been problematic in the aviation context, resulting in the introduction of the ICAO language proficiency provisions. The amendments to ICAO Annex 1 – *Personnel Licensing*, Annex 6 – *Operation of Aircraft*, Annex 10 – *Aeronautical Telecommunications* and Annex 11 – *Air Traffic Services* adopted in March 2003 contained language proficiency requirements that clarified and extended existing provisions. For example, the new provisions no longer allow the use of a cockpit translator for operational communications. A summary of the amendments is included as **Appendix A**.

2. DISCUSSION

2.1 ICAO provisions now require that as of 5 March 2008, pilots, aeronautical station (radio) operators and air traffic controllers *shall* demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements of ICAO documentation.

2.2 Although the language proficiency provisions allow, by sub-regional agreement, the usage of a common language other than English, in the context of the Asia/Pacific region the dissimilarities between State native languages and the existing widespread use of English essentially mean that English must *de facto* constitute the regional aviation language in terms of the ICAO provisions.

2.3 Consequently, the regional implementation of ICAO language provisions means that, with the exception of expert English language speakers (generally native speakers), all operational pilots, radio operators and air traffic controllers must be formally evaluated prior to March 2008 as meeting or exceeding the specified minimum criteria in the use of English language. Ongoing periodic testing will also be required for operational English language speakers at other than expert level, in order to demonstrate continued proficiency to at least the minimum level.

Manual on the Implementation of the ICAO Language Proficiency Requirements

2.4 An ICAO manual addressing the various training and evaluation issues related to the implementation of ICAO language proficiency provisions has been prepared in order to assist States to comply with the provisions. The *Manual on the Implementation of the ICAO Language Proficiency Requirements* (Doc 9835-AN/453) was published in September 2004.

The ICAO Rating Scale

2.5 ICAO language requirements focus on the assessment of communicative proficiency, that is, an individual's speaking and listening skills, rather than their reading and writing skills. The best way to assess communicative speaking and listening proficiency is by assessing actual speaking performance, and this will always require the use of some sort of scale to guide good judgment. In addition, the ICAO language proficiency requirements apply to native or non-native speakers alike, in order to identify other issues (e.g. any speech impediment) that would affect an individual's capacity to operate safely.

2.6 Annex 1 includes an Attachment that specifies the criteria for the requirements and assessment of language proficiency, including a proficiency rating scale. This recently developed ICAO language proficiency rating scale describes 6 levels of proficiency, where Level 6 is defined as "Expert", and will be used to guide the assessment of an individual's language ability. The provisions of Annex 1 require that licence holders:

".....shall demonstrate, in a manner acceptable to the licensing authority, compliance with the holistic descriptors at Section 2 and with the ICAO Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale in the Attachment."

2.7 An extract from the proficiency rating scale relating to the Level 4 ("Operational") criteria required for pilot, radio operator and controller proficiency is reproduced in **Appendix B** to this paper.

Demonstration of proficiency at the Expert level

2.8 Language proficiency at either end of a proficiency scale is relatively easy to discern. It is not difficult to recognize Expert or native-like proficiency, and for that reason the assessment at Level 6 (“Expert”) does not necessarily need to be carried out by a language testing specialist. Native speakers of the language should be considered expert speakers provided they use a dialect or accent that is intelligible to the aeronautical community. Expert speakers also include multilingual speakers who include the language as one of their native languages, and foreign-language speakers who have acquired Expert proficiency.

2.9 Although assessment of proficiency at Level 6 allows flexibility in the way the assessment is made, the demonstration of language proficiency is an element of the formal process that leads toward the issuance of a pilot, radio operator or an air traffic controller licence. It is therefore important that each State establishes appropriate procedures and ensures that the results of the assessment, whether done through specialized testing, through the documentation of appropriate experience in the language, or on the basis of observation of Expert proficiency during training are properly documented.

Evaluation Format

2.10 The final format of any formal assessment will be determined by individual States to suit their specific needs, but the language tests must be specifically for the aviation context. Commercially available general English language tests are generally not appropriate for the purpose of testing language competency for pilots, radio operators and air traffic controllers. Efforts to develop appropriate commercially available aviation-specific testing instruments have already begun in some States and it is expected that more aviation-specific test options will be available in the future.

2.11 The fact that testing must focus on the assessment of an individual’s speaking and listening skills introduces a significant level of complexity. In contrast to written test answers which could be readily assessed as correct or incorrect, the assessment of communicative proficiency will require the use of a specialist assessor, who is familiar with English in the aviation context, engaging in directed conversation with the candidate and verbally testing the candidate’s comprehension of taped audio samples. The criterion *Interaction* in the ICAO Proficiency Scale is designed to allow evaluations to be made about how well individuals maintain communication, negotiate meaning, repair discourse and seek confirmation or clarification when required.

2.12 Although much work still needs to be completed in this area, one language services provider in Australia is working towards releasing a commercial language testing programme for pilots in February/March 2005 and an ATCO testing programme in June/July 2005. IATA is also working on language testing programmes for pilots, and will commence validation of the programmes in the first quarter of 2005. A number of other States and language services providers in the region have implemented studies in order to develop testing and training that can best meet the ICAO language proficiency provisions.

Recurrent Testing and Training

2.13 Another important aspect of the language proficiency provisions is that an emphasis is placed on the need for recurrent training and testing. Recurrent testing of language skills is important for two reasons. Firstly, it is widely acknowledged that language skills regress when speakers who are not highly proficient in a language lack opportunities to use the language. As such, retesting is particularly important for intermediate speakers of the language. The ICAO provisions

require that speakers assessed at Level 4 proficiency be retested every three years and those at Level 5 every six years.

2.14 Secondly, retesting is important because of the necessarily inexact nature of language proficiency assessment. As with all grading systems, there is a possibility that on occasion an individual who actually demonstrates Level 3 ability will be assessed as meeting the Level 4 standard and vice versa.

2.15 In view of the above, provision must be made for ongoing language testing. This will necessarily involve the preparation of a number of equivalent or parallel versions for each language testing instrument in place, in order to ensure that candidates do not simply become familiar with a single test version as a result of its continued application, or gain insight into the test by way of discussions amongst staff members who have previously completed the test. Further, there is less chance that test security can be compromised when multiple versions of an assessment instrument are produced and implemented.

The Role of Language Specialists

2.16 In the aviation context of safety, efficiency and reliability, the need for high integrity language proficiency assessment and training mechanisms is of great significance. Language tests need to be designed to assess the features of language intended by the ICAO provisions. In addition, it is likely that the broad based tests used for the initial benchmarking of operational staff in relation to the Level 4 criteria are unlikely to be suitable for more advanced language proficiency assessment, meaning that a number of different types (and complexities) of tests will be required.

2.17 Tests prepared and/or administered by practitioners who do not have the specialized knowledge and experience possessed by language testing professionals may act against the integrity intended by the language proficiency provisions. For example, inappropriate assessment may lead to situations in which inadequate language proficiency is graded as acceptable, or alternatively, proficient candidates are graded as below standard.

2.18 In circumstances where a candidate is assessed as below standard, efficient and effective language enhancement training must be available in order to enable the individual to return to the operational workforce. Language training materials that are suitable in the aviation context will take time to prepare and deliver. The notion that anyone who speaks English can teach English is incorrect - language teaching is a professional activity that requires specialized training. Language teachers are specialist facilitators who are trained to effectively communicate how a language works, to organize and deliver interesting and appropriate teaching materials, and to accurately assess proficiency.

Implementation Issues

2.19 The introduction of strengthened ICAO provisions for language proficiency for pilots and air traffic controllers reinforces the need within the civil aviation industry to ensure the establishment and continued development of efficient and effective language assessment and training programs. States and organizations may opt to develop internal language programs, or they may decide to contract with commercial language training organizations to provide the services.

2.20 In most cases, language assessment and training will fall outside the core business activities of regulators, airlines and air navigation service providers. Efficiencies of time and resources are likely to be realized by the use of specialist language organizations in order to ensure that implementation timelines are met, suitable integrity in the testing and training processes is

maintained and Level 4 (“Operational”) proficiency, as a minimum, is reached and maintained by a maximum number of operational staff.

2.21 In most instances, there will be a number of aviation agencies – airlines, regulators, air navigation service providers - within each State that will need to address similar aspects of the implementation of the language proficiency provisions. Likewise, all States of the region will need to address essentially the same aspects of implementation. This situation has the potential to result in significant duplication of effort between agencies within a State, and between States. Collaborative arrangements within States, and between States on a regional or sub-regional basis, that result in a minimum number of specialist language services providers have the potential to realize substantial implementation efficiencies whilst ensuring the harmonization and standardization of language proficiency levels.

2.22 In implementing the proficiency provisions, States may have to consider, *inter alia*, aspects of:

- mechanisms to identify current proficiency levels amongst operational staff;
- mechanisms for the provision of language enhancement training;
- whether to establish in-house programs for assessment and enhancement training, or utilize external language services providers;
- if using external language services providers, mechanisms to identify appropriate providers;
- numbers of pilots or controllers that can be simultaneously taken off line, and for what period of time, for assessment and/or enhancement training;
- contingency considerations in the event that insufficient staff attain Level 4 proficiency; and
- whether language proficiency tests should be introduced as part of the initial recruiting process.

2.23 In planning for the March 2008 compliance date, States must make allowances for the creation of suitable language testing instruments, and the widespread and ongoing application of these testing instruments. In circumstances where candidates are initially assessed as not meeting the minimum requirements, in order to retain the staff member in an operational role States must also ensure the provision of a suitable aviation language training programme aimed at enhancing the language skills of operational staff to a level that meets the ICAO provisions.

2.24 The extensive time frames required for the preparation and proofing of testing instruments, and the testing and in some cases retraining of operational pilots, radio operators and controllers will quickly consume the time buffer built into the March 2008 implementation date.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the provisions of Annexes 1, 6, 10 and 11 relating to language proficiency requirements, including compliance by 5 March 2008;

- b) note the availability of the ICAO *Manual on the Implementation of the ICAO Language Proficiency Requirements* (Doc 9835);
- c) consider the complexities of ensuring the language proficiency assessment of all operational staff, and of the implementation of language enhancement training programmes for staff that do not initially reach the minimum standard;
- d) in the context of the need to prepare and administer formal language testing instruments, and to retrain unsuccessful candidates, note the short time period remaining prior to implementation; and
- e) consider regional or sub regional arrangements for the effective and ongoing provision of appropriate aviation language testing and training mechanisms to facilitate compliance with the SARPS.

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ICAO SARPS

EXTRACTS FROM ICAO ANNEXES 1, 6, 10 AND 11ANNEX 1, Chapter 1**1.2.9 Language proficiency**

1.2.9.1 Aeroplane and helicopter pilots and those flight navigators who are required to use the radio telephone aboard an aircraft shall demonstrate the ability to speak and understand the language used for radiotelephony communications.

Note.— Pursuant to Article 42 of the Convention on International Civil Aviation, paragraph 1.2.9.1 does not apply to personnel whose licences are originally issued prior to 5 March 2004 but, in any case, does apply to personnel whose licences remain valid after 5 March 2008.

1.2.9.2 Air traffic controllers and aeronautical station operators shall demonstrate the ability to speak and understand the language used for radiotelephony communications.

1.2.9.3 **Recommendation.**— *Flight engineers, and glider and free balloon pilots should have the ability to speak and understand the language used for radiotelephony communications.*

1.2.9.4 As of 5 March 2008, aeroplane and helicopter pilots, air traffic controllers and aeronautical station operators shall demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements in the Appendix.

1.2.9.5 **Recommendation.**— *Aeroplane and helicopter pilots, flight navigators required to use the radio telephone aboard an aircraft, air traffic controllers and aeronautical station operators should demonstrate the ability to speak and understand the language used for radiotelephony communications to the level specified in the language proficiency requirements in the Appendix.*

1.2.9.6 As of 5 March 2008, the language proficiency of aeroplane and helicopter pilots, air traffic controllers and aeronautical station operators who demonstrate proficiency below the Expert Level (Level 6) shall be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level.

1.2.9.7 **Recommendation.**— *The language proficiency of aeroplane and helicopter pilots, flight navigators required to use the radio telephone aboard an aircraft, air traffic controllers and aeronautical station operators who demonstrate proficiency below the Expert Level (Level 6) should be formally evaluated at intervals in accordance with an individual's demonstrated proficiency level, as follows:*

a) those demonstrating language proficiency at the Operational Level (Level 4) should be evaluated at least once every three years; and

b) those demonstrating language proficiency at the Extended Level (Level 5) should be evaluated at least once every six years.

Note 1.— Formal evaluation is not required for applicants who demonstrate expert language proficiency, e.g. native and very proficient non-native speakers with a dialect or accent intelligible to the international aeronautical community.

APPENDIX A

Note 2.— The provisions of 1.2.9 refer to Annex 10, Volume II, Chapter 5, whereby the language used for radiotelephony communications may be the language normally used by the station on the ground or English. In practice, therefore, there will be situations whereby flight crew members will only need to speak the language normally used by the station on the ground.

APPENDIX to Annex 1

1. General

Note.— The ICAO language proficiency requirements include the holistic descriptors at Section 2 and the ICAO Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale in the Attachment. The language proficiency requirements are applicable to the use of both phraseologies and plain language.

To meet the language proficiency requirements contained in Chapter 1, Section 1.2.9, an applicant for a licence or a licence holder shall demonstrate, in a manner acceptable to the licensing authority, compliance with the holistic descriptors at Section 2 and with the ICAO Operational Level (Level 4) of the ICAO Language Proficiency Rating Scale in the Attachment.

ANNEX 6, PART I, Chapter 1.

1.1.3 Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for radiotelephony communications as specified in Annex 1.

ANNEX 6, PART III, Chapter 1.

1.1.3 Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for radiotelephony communications as specified in Annex 1.

ANNEX 10, VOLUME II, Chapter 5.

5.1 General

Note.— For the purposes of these provisions, the communication procedures applicable to the aeronautical mobile service, as appropriate, also apply to the aeronautical mobile satellite service.

5.1.1 In all communications the highest standard of discipline shall be observed at all times.

5.1.1.1 ICAO standardized phraseology shall be used in all situations for which it has been specified. Only when standardized phraseology cannot serve an intended transmission, plain language shall be used.

Note.— Detailed language proficiency requirements appear in the Appendix to Annex 1.

5.2 Radiotelephony procedures

5.2.1.2.1 The air-ground radiotelephony communications shall be conducted in the language normally used by the station on the ground or in the English language.

Note 1.— The language normally used by the station on the ground may not necessarily be the language of the State in which it is located. A common language may be agreed upon regionally as a requirement for stations on the ground in that region.

Note 2.— The level of language proficiency required for aeronautical radiotelephony communications is specified in the Appendix to Annex 1.

5.2.1.2.2 The English language shall be available, on request from any aircraft station, at all stations on the ground serving designated airports and routes used by international air services.

5.2.1.2.3 The languages available at a given station on the ground shall form part of the Aeronautical Information Publications and other published aeronautical information concerning such facilities.

5.2.1.5.1 **PANS.**— *Each written message should be read prior to commencement of transmission in order to eliminate unnecessary delays in communications.*

5.2.1.5.2 Transmissions shall be conducted concisely in a normal conversational tone.

Note.— See the language proficiency requirements in the Appendix to Annex 1.

5.2.1.5.3 **PANS.**— *Speech transmitting technique should be such that the highest possible intelligibility is incorporated in each transmission. Fulfilment of this aim requires that air crew and ground personnel should:*

a) enunciate each word clearly and distinctly;

b) maintain an even rate of speech not exceeding 100 words per minute. When a message is transmitted to an aircraft and its contents need to be recorded the speaking rate should be at a slower rate to allow for the writing process. A slight pause preceding and following numerals makes them easier to understand;

c) maintain the speaking volume at a constant level;

d) be familiar with the microphone operating techniques particularly in relation to the maintenance of a constant distance from the microphone if a modulator with a constant level is not used;

e) suspend speech temporarily if it becomes necessary to turn the head away from the microphone.

5.2.1.5.4 **Recommendation.**— *Speech transmitting technique should be adapted to the prevailing communications conditions.*

5.2.1.5.5 **PANS.**— *Messages accepted for transmission should be transmitted in plain language or ICAO phraseologies without altering the sense of the message in any way. Approved ICAO abbreviations contained in the text of the message to be transmitted to aircraft should normally be converted into the unabbreviated words or phrases which these abbreviations represent in the language used, except for those which, owing to frequent and common practice, are generally understood by aeronautical personnel.*

5.2.1.6.2.1.1 The text shall be as short as practicable to convey the necessary information; full use shall be made of ICAO phraseologies.

APPENDIX A

ANNEX 11, Chapter 2

2.27 Language proficiency

2.27.1 An air traffic services provider shall ensure that air traffic controllers speak and understand the language(s) used for radiotelephony communications as specified in Annex 1.

2.27.2 Except when communications between air traffic control units are conducted in a mutually agreed language, the English language shall be used for such communications.

PANS-ATM (Doc 4444)

CHAPTER 12. Phraseologies

12.2.1 Most phraseologies contained in Section 12.3 of this Chapter show the text of a complete message without call signs. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use plain language, which should be as clear and concise as possible, to the level specified in the ICAO language proficiency requirements contained in Annex 1 *C Personnel Licensing*, in order to avoid possible confusion by those persons using a language other than one of their national languages.

LANGUAGE PROFICIENCY

ICAO RATING SCALE FOR OPERATIONAL LEVEL 4

Pronunciation: *(Assumes a dialect and/or accent intelligible to the aeronautical community)*

Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.

Structure: *(Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task)*

Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.

Vocabulary:

Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete, and work-related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.

Fluency:

Produces stretches of language at an appropriate tempo. There may be occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.

Comprehension:

Comprehension is mostly accurate on common, concrete, and work related-topics when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies.

Interactions:

Responses are usually immediate, appropriate, and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming, or clarifying.

(Note: For complete information on the ICAO language proficiency rating scales, please refer to the Attachment to Annex 1.)

— END —