

Appendix A

ICAO SARPS

PART I: EXTRACTS FROM ICAO ANNEXES 1, 6, 10 AND 11

ANNEX 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.

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

REQUIREMENTS FOR PROFICIENCY IN LANGUAGES USED FOR RADIOTELEPHONY COMMUNICATIONS

(Chapter 1, Section 1.2.9, refers)

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.

2. Holistic descriptors

Proficient speakers shall:

- a) communicate effectively in voice-only (telephone/radiotelephone) and in face-to-face situations;
- b) communicate on common, concrete and work-related topics with accuracy and clarity;
- c) use appropriate communicative strategies to exchange messages and to recognize and resolve misunderstandings (e.g. to check, confirm, or clarify information) in a general or work-related context;
- d) handle successfully and with relative ease the linguistic challenges presented by a complication or unexpected turn of events that occurs within the context of a routine work situation or communicative task with which they are otherwise familiar; and
- e) use a dialect or accent which is intelligible to the aeronautical community.

...

ANNEX 6, PART I**CHAPTER 3. GENERAL**

...

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

...

ANNEX 6, PART III**Section II****CHAPTER 1. GENERAL**

...

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. AERONAUTICAL MOBILE SERVICE —
VOICE COMMUNICATIONS****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 *Language to be used*

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.

...

5.2.1.4.3 Pronunciation of numbers

5.2.1.4.3.1 When the language used for communication is English, numbers shall be transmitted using the following pronunciation:

<i>Numeral or numeral element</i>	<i>Pronunciation</i>
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
Decimal	DAY-SEE-MAL
Hundred	HUN-dred
Thousand	TOU-SAND

Note.— The syllables printed in capital letters in the above list are to be stressed; for example, the two syllables in ZE-RO are given equal emphasis, whereas the first syllable of FOW-er is given primary emphasis.

5.2.1.5 Transmitting technique

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.

...

ANNEX 11

CHAPTER 2. GENERAL

...

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**CHAPTER 12. PHRASEOLOGIES**

...

12.2 GENERAL

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 — *Personnel Licensing*, in order to avoid possible confusion by those persons using a language other than one of their national languages.

...

PART II: ICAO LANGUAGE PROFICIENCY RATING SCALE
(found in the Attachment to Annex 1)

1.1 Expert, Extended and Operational Levels

<i>LEVEL</i>	<i>PRONUNCIATION</i> <i>Assumes a dialect and/or accent intelligible to the aeronautical community.</i>	<i>STRUCTURE</i> <i>Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.</i>	<i>VOCABULARY</i>	<i>FLUENCY</i>	<i>COMPREHENSION</i>	<i>INTERACTIONS</i>
Expert 6	Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.	Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues and responds to them appropriately.
Extended 5	Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.	Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.	Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work-related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.	Able to speak at length with relative ease on familiar topics but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.	Comprehension is accurate on common, concrete, and work-related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.	Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.
Operational 4	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.	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 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.	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 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.	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.
<i>Levels 1, 2 ad 3 are on subsequent page.</i>						

1.2 Pre-operational, Elementary and Pre-elementary Levels

<i>LEVEL</i>	<i>PRONUNCIATION</i> Assumes a dialect and/or accent intelligible to the aeronautical community.	<i>STRUCTURE</i> Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.	<i>VOCABULARY</i>	<i>FLUENCY</i>	<i>COMPREHENSION</i>	<i>INTERACTIONS</i>
<i>Levels 4, 5 and 6 are on preceding page.</i>						
Pre-operational 3	Pronunciation, stress, rhythm, and intonation are influenced by the first language or regional variation and frequently interfere with ease of understanding.	Basic grammatical structures and sentence patterns associated with predictable situations are not always well controlled. Errors frequently interfere with meaning.	Vocabulary range and accuracy are often sufficient to communicate on common, concrete, or work-related topics, but range is limited and the word choice often inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.	Produces stretches of language, but phrasing and pausing are often inappropriate. Hesitations or slowness in language processing may prevent effective communication. Fillers are sometimes distracting.	Comprehension is often accurate on common, concrete, and work-related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a linguistic or situational complication or an unexpected turn of events.	Responses are sometimes immediate, appropriate, and informative. Can initiate and maintain exchanges with reasonable ease on familiar topics and in predictable situations. Generally inadequate when dealing with an unexpected turn of events.
Elementary 2	Pronunciation, stress, rhythm, and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding.	Shows only limited control of a few simple memorized grammatical structures and sentence patterns.	Limited vocabulary range consisting only of isolated words and memorized phrases.	Can produce very short, isolated, memorized utterances with frequent pausing and a distracting use of fillers to search for expressions and to articulate less familiar words.	Comprehension is limited to isolated, memorized phrases when they are carefully and slowly articulated.	Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.
Pre-elementary 1	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.	Performs at a level below the Elementary level.

Note.— The Operational Level (Level 4) is the minimum required proficiency level for radiotelephony communication. Levels 1 through 3 describe Pre-elementary, Elementary, and Pre-operational levels of language proficiency, respectively, all of which describe a level of proficiency below the ICAO language proficiency requirement. Levels 5 and 6 describe Extended and Expert levels, at levels of proficiency more advanced than the minimum required Standard. As a whole, the scale will serve as benchmarks for training and testing, and in assisting candidates to attain the ICAO Operational Level (Level 4).

PART III: EXPLANATION OF RATING SCALE

PRONUNCIATION

The six levels of pronunciation descriptors are applicable at all levels to native and non-native speakers; that is, “native” English speakers may demonstrate Elementary Level 2 proficiency if their regional dialect is so localized that it is not readily understood by those outside of that particular region. On the other hand, speakers whose speech patterns clearly identify them as “non-native” speakers (having a so-called “heavy” accent) may demonstrate Expert Level 6 proficiency, as long as they meet the criteria of almost always being *easy* to understand by proficient listeners.

Level	Descriptors	Additional information
Expert 6	Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	An Expert Level 6 speaker may be a speaker of English as a first language with a widely understood dialect or may be a very proficient second-language speaker, again with a widely used or understood accent and/or dialect. The speakers’ accent or dialect may or may not identify them as second-language users, but the pronunciation patterns of Expert speakers or any difficulties, “mistakes”, almost never interfere with the ease with which they are understood. Always clear and understandable.
Extended 5	Pronunciation, stress, rhythm, and intonation, though influenced by the first language or regional variation, rarely interfere with ease of understanding.	Extended Level 5 speakers demonstrate a marked accent, or localized regional variety of English, but one which rarely interferes with how easily understood their speech is. Always clear and understandable, although, only occasionally, a proficient listener may have to pay close attention.
Operational 4	. . . only sometimes interfere . . .	An Operational Level 4 speaker also demonstrates a marked accent, or localized regional variety of English. Occasionally, a proficient listener may have to pay close attention to understand or may have to clarify something from time to time.

Operational Level 4 is certainly not a “perfect” level of proficiency; it is the minimum level of proficiency determined to be “safe” for air traffic control communications. While it is not an Expert, fully proficient level, it is important to keep in mind that pronunciation, or form, plays the critical role in aiding comprehension between two non-native speakers of English.

STRUCTURE

Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task. Users may refer to the communicative aeronautical language functions and to the list of controller communicative tasks in Chapter 7 of this manual for guidance.

Language teaching specialists generally categorize structural (or grammatical) errors into two classes: “global” and “local”. Global errors are those which interfere with meaning; local errors are those which do not interfere with meaning.

Level	Descriptors	Additional information
Expert 6	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	Expert Level 6 speakers do not demonstrate consistent global structural or grammatical errors but may exhibit fossilized local errors.
Extended 5	Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interferes with meaning.	Extended Level 5 speakers demonstrate less control of complex grammatical structures than do Expert Level 6 speakers and may commit global errors from time to time when using complex structures.
Operational 4	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.	Operational Level 4 speakers have good command of basic grammatical structures. They do not merely have a memorized set of words on which they rely but have sufficient command of basic grammar to create new meaning as appropriate. They demonstrate errors, particularly local errors, but infrequent global errors.

VOCABULARY

A partial list of vocabulary domains related to aviation communications is found in Chapter 7 of this manual.

While memorizing phraseologies is neither an acceptable means of demonstrating language proficiency nor an effective or recommended language learning strategy, it is undeniable that *context* is a relevant factor in language proficiency. Therefore, learning or testing that focusses on, or is designed to elicit vocabulary related to, aeronautical radiotelephony communications is acceptable. An appropriate methodology is to train and test in a broad *aviation-related* context, in order to ensure that proficiency will be fully adequate in the usually narrow constraints of aeronautical radiotelephony communications.

Level	Descriptors	Additional information
Expert 6	Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced, and sensitive to register.	Register refers to those aspects of style, tone, and lexical choice which correspond to context and status. One of the more difficult foreign language learning tasks seems to be acquiring a cultural sensitivity to register. Another marker of strong proficiency seems to be the acquisition of, and facility with, idiomatic expressions and the ability to communicate nuanced ideas.

Level	Descriptors	Additional information
Extended 5	Vocabulary range and accuracy are sufficient to communicate effectively on common, concrete, and work-related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.	Extended Level 5 speakers may not be sensitive to register, with a lexical range which may not be sufficient to communicate effectively in as broad a range of topics as an Expert Level 6 speaker, but a speaker with Extended proficiency will have no trouble paraphrasing whenever necessary.
Operational 4	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.	An Operational Level 4 speaker will likely not have a well-developed sensitivity to register. Vocabulary is not expected to be idiomatic. A speaker with Operational proficiency will usually be able to manage communication on work-related topics, but may sometimes need clarification. When faced with a communication breakdown, an Operational Level 4 speaker can paraphrase and “negotiate meaning” so that the message is understood.

FLUENCY

Fluency is a difficult concept to define but most speakers have an intuitive sense of what it is. As radiotelephony communications take place in a busy environment, the communications of air traffic controllers and pilots must not only be clear, concise, and unambiguous, but responses must be delivered efficiently and a rapid response time is expected. Therefore, for our purposes, “fluency” is intended to refer to the naturalness of speech production, the degree to which comprehension is impeded by any unnatural or unusual hesitancy, distracting starts and stops, distracting fillers (em . . . huh . . . er . . .) or inappropriate silence.

Level	Descriptors
Expert 6	Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.
Extended 5	Able to speak at length with relative ease on familiar topics but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.
Operational 4	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

In air traffic control communications, pilots rely on the clear and accurate information provided to them by controllers for safety. It is not sufficient for air traffic controllers to be able to handle *most* pilot communications; they must be ready for the unexpected. Similarly, pilots must be able to understand air traffic controller instructions, especially when these differ from what a pilot expects to hear. It is during complications in aviation that communications become most crucial, with a greater reliance upon plain language.

Level	Descriptors	Additional information
Expert 6	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.	
Extended 5	Comprehension is accurate on common, concrete, and work-related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers.	
Operational 4	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.	As with all Operational Level 4 descriptors, comprehension is not expected to be perfectly accurate in all instances. However, the pilot or air traffic controller will need to have strategies available which allow him or her to ultimately comprehend the unexpected or unusual communication. Unmarked or complex textual relations are occasionally misunderstood or missed. The descriptors of Operational Level 4 under "Interactions" clarifies the need for clarification strategies. Failure to understand a clearly communicated, unexpected communication, even after seeking clarification, should result in the assignment of a lower proficiency level assessment.

INTERACTIONS

Pilots and controllers should be aware that inappropriate silence may indicate a failure to understand.

Level	Descriptors	Additional information
Expert 6	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues, and responds to them appropriately.	
Extended 5	Responses are immediate, appropriate, and informative. Manages the speaker/listener relationship effectively.	
Operational 4	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.	A pilot or air traffic controller who does not understand an unexpected communication must be able to communicate that fact. It is much safer to query a communication, to clarify, or even to simply acknowledge that one does not understand rather than allow silence to mistakenly represent comprehension. At the Operational Level 4, it is acceptable that comprehension is not perfect 100 per cent of the time when dealing with unexpected situations, but Level 4 speakers need to be skilled at checking, seeking confirmation, or clarifying a situation or communication.