# Test Syllabus of Pilot English Proficiency Examination of CAAC

# ( PEPEC )

（The 3rd Edition）

# Flight Standards Department of CAAC

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# 1. General Principles of PEPEC

## 1.1 Test background

The International Civil Aviation Organization's (ICAO) studies on aviation incidents and accidents occurring over the years suggest that the poor aviation English proficiency, namely the poor listening and spoken English of the aviation personnel (pilots, ATC controllers), is one of the major reasons for aviation accidents. Therefore, ICAO requires that all pilots and controllers must meet the provisions of ICAO Language Proficiency Operational level 4 or above. According to the requirements of the ICAO Annex 1, 1.2.9, from March 5th, 2008, civil aviation pilots engaged in aviation English language level 4 or above before they can perform their duties. In accordance with the relevant requirements of ICAO, to design a special civil aviation English examination appropriate for pilots has become a top priority for the Civil Aviation Administration of China.

In compliance with ICAO mandated Language Proficiency Requirements, the Flight Standards Department of CAAC has developed a web-based English proficiency Testing System for flight crew in China (Pilots' English Proficiency Examination of CAAC, abbreviated to PEPEC). The purposes of developing the test are as follows:

a) To meet ICAO's new language testing and the minimum language skills for pilots.

b) To improve the general English level of the Chinese pilots to meet the requirements of aviation operations.

c) To evaluate the language competency of pilots more effectively and more professionally.

## 1.2 Test purpose

The purpose of PEPEC is to evaluate language proficiency of all commercial pilots according to ICAO requirements. It is an ESP test based on China's Civil Aviation Pilots' Radiotelephony Test and Civil Aviation English Test that China's Civil Aviation Flight Standards Department has developed and implemented over the years. It is in strict accordance with ICAO *Standards and Recommended Practices,* Annex 1 and the *Manual on the Implementation of ICAO Language Proficiency Requirements* (Doc.9835). It is devised to assess the listening and oral English skills of Civil Aviation flight crew in China. The test results come in the form of placement levels, each reflecting the language proficiency and ability of the candidate.

## 1.3 Test Nature

PEPEC is a computer-based aviation English proficiency test delivered by a secure web server. The system has been designed to meet the quality and performance requirements of English language testing methodology. It is a "standards –related test" based on the published ICAO Language Proficiency Test score scale, and descriptors, according to the ICAO requirements, that is English proficiency as reflected by pronunciation, structure, vocabulary, fluency, comprehension and interaction.

### 1.4 Test Organization and Implementation

The PEPEC is a national English proficiency examination for civil aviation flight crew and is endorsed by the CAAC Flight Standards Department. The regional civil aviation administration inspector in charge of the test is responsible for the supervision and management of the testing and rating in each test centre jurisdiction. For the specific application procedures, test organization, rating, results release and publishing refer to the Advisory Circular of *Requirements for PEPEC Test Center* of CAAC (Document reference No. AC-61FS-2008-15).

### 1.5 Test Participants

All civil aviation pilots, student pilots who have got pilot license and other relevant personnel can apply to take the test.

### 1.6 Test Features

PEPEC's test structure, test format and rating methods comply with the requirements of the ICAO language testing documents, standards and recommended practices. PEPEC meets the standards specified in *Manual on the Implementation of ICAO Language Proficiency Requirements* (ICAO Doc.9835). It has the following characteristics:

1) PEPEC testing system, test structure and rating procedures are designed in accordance with the ICAO language proficiency test requirements.

2) PEPEC questions are designed and produced by aviation institutions, language training institutions and airlines, and are then submitted to the CAAC Experts Panel for auditing and approval.

3) PEPEC is based on aviation-related topics and scenarios. The test is carried out and recorded on the computer, and the test results are rated by the CAAC-endorsed raters.

4) PEPEC test is a computer-based language proficiency test, which includes a face-to-face oral interview through a computer medium in real time.

5) The candidate's proficiency in listening and spoken English is assessed and rated by evaluation of the voice recordings made during the test.

6) In simulated radiotelephony communication scenarios, both the ability to use ICAO standard phraseology and proficiency in general aviation English are assessed.

7) The standards for assessment are based upon the ICAO holistic descriptors of the various English language proficiency levels. Proficiency assessment covers the six sets of criteria which comprise pronunciation, structure, vocabulary, fluency, comprehension and interaction. The candidate's English language proficiency can be rated from the highest ICAO Level 6 to the lowest Level 1.

8) PEPEC only evaluates a candidate's English listening and speaking proficiency—not reading and writing proficiency.

9) The English proficiency of the candidate is evaluated by a number of different raters, and the results, therefore fully reflect the fairness and credibility of the testing system.

10) The PEPEC test's reliability and validity is ensured by regular test feedback study, monitored throughout by CAAC.

11) CAAC has the responsibility for the test result assessment and test reporting procedures to ensure the safety, security and quality of the testing system.

12) Interlocutors and raters are professionally trained and they are accredited by CAAC.

## 2. Test Contents of PEPEC

### 2.1 Test structure

PEPEC test includes two testing types: Operational Level and Advanced Level. CAAC has published and put on line a simulated test on the website entitled "Flight Crew License and Examination" (http://pilots.caac.gov.cn) for the prospective candidates. Test items, contents, description of different levels are as follows:

| Part | Type | Contents | Description | Operational Level | | Advanced Level | |
|---|---|---|---|---|---|---|---|
| PART 1 | Listening Comprehension | 10-second aviation English | Multiple-choice | 5 | 20 Note 1 | 5 | 20 Note 1 |
| | | 10-second radiotelephony exchanges | | 5 | | 5 | |
| | | 20-second aviation English | | 5 | | 5 | |
| | | 20-second radiotelephony exchanges | | 5 | | 5 | |
| PART 2 | Repeating Sentences | Standard radiotelephony phraseologies and plain language in non-routine and emergency situations | Oral repetition | 12 Note 2 | | 20 Note 2 | |
| PART 3 | Simulated radiotelephony Communication | Simulated radiotelephony exchanges in routine, non-routine and emergency situations | Role-play as a pilot | 1 Note 3 | | 1 Note3 | |
| PART 4 | Retelling Story | Description of aviation related events | Oral retelling | N/A | | 1 | |
| PART 5 | Oral Proficiency Interview | Topics on daily English; Topics on aviation English; Description of aviation related   pictures | Answering questions given by an interlocutor | 1 | | 1 | |

Note1: The listening comprehension part is a stand-alone module to test the candidate's listening proficiency. If the candidate's accuracy in this part is below the required level, the test is terminated.

Note 2: Part 2 is also a stand-alone module to test the candidate's listening and oral repetition capability. This part is rated by the raters and the rating is converted by the system. If the candidate's score of the part is below the required level, the subsequent parts will not be rated. The applicants of pre-operational, operational and advanced levels are required to respectively repeat 8, 12 or 20 pre-recorded sentences.

*Note 3: The applicants of operational level recurrent test are required to do Part 3 and Part 5 while those of the advanced level recurrent test are required to complete Part 3, Part 4 and Part 5.*

### 2.2 Test Illustrations

### 1) Listening Comprehension

Listening comprehension is designed to evaluate the candidate's ability to accurately interpret received verbal information. The speed of delivery of recordings is 100-120 words per minute. This part is a multiple-choice test. The candidate selects a correct answer out of four choices shown on the computer screen. This part is rated by the computer system. It takes about 15 minutes. It includes the following four types:

10-second radiotelephony exchanges: The format is multiple-choice with five questions, mainly related to pilot and controller exchanges. Each question is read only once with 16 seconds allowed to answer.

10-second aviation English: The format is multiple-choice with five questions, concerning statements and dialogues related to aviation. The answers are given by way of multiple-choice. Each question is read only once with 16 seconds allowed to answer

20-second radiotelephony exchanges: The format is multiple-choice with five questions, mainly related to pilot-controller exchanges in complex aviation-related situations. Each question is read only once with 20 allowed seconds to answer.

20-second aviation English: The format is multiple-choice with five questions, concerning longer aviation related statement and dialogue. Each question is read only once with 20 seconds allowed to answer.

### 2) Repeating Sentences

This part is designed to test the candidate's language proficiency in listening and repeating radiotelephony phraseology in routine and non-routine situations. The candidate is required to repeat what is heard. The pre-recorded material is delivered at a rate of speech of 100-120 words per minute. The direction of this part contains "Warm Up" instruction and two sample sentences "Ready for departure" and "Runway in sight" for the purpose of candidates' familiarization. The warm-up section does not account for the final score. Part 2 is rated by the rater based on the candidate's performance and the rating is converted by the system. This part is delivered in three levels—pre-operational

(Level 3), operational (Level 4) and advanced (Level 5 and above) as follows:

1. Pre-operational (Level 3): This part contains 8 radiotelephony phrases or sentences in routine or non-routine situations. Before the candidate starts this part, the computer system displays "I agree to take ICAO Level 3 (Pre-operational) test" and he/she should select one of the prompts generated by the system to make confirmation. If the candidate agrees to take ICAO Level 3 test, the system will automatically deliver 8 sentences. Each sentence will be read only once. The candidate may have at most two opportunities to use "Say Again" prompt to listen to any 2 of the 8 sentences again. The candidate listens to each sentence and repeats it after the "Beep" sound. The computer keeps recording automatically. When the candidate finishes repeating one sentence, he/she may click "Next" prompt to continue the test. If the candidate can not finish repeating a sentence within the given time, the system will automatically go to the next. Rating of this part is done by the rater by selecting "Correct" or "Incorrect" option. This part takes about 5 minutes.

2. Operational (Level 4): This part contains 12 radiotelephony phrases or sentences in routine and non-routine situations. Each sentence will be read only once. The candidate may have at most three opportunities to use "Say Again" prompt to listen to any 3 of the 12 sentences again. The candidate listens to each sentence and repeats it after the "Beep" sound. The computer keeps recording automatically. When the candidate finishes repeating one sentence, he/she may click "Next" prompt to continue the test. If the candidate can not finish repeating a sentence within the given time, the system will automatically go to the next. Rating of this part is done by the rater by selecting "Correct", "Partially Correct" or "Incorrect" option. This part takes about 10 minutes.

3. Advanced (Level 5 and above): This part contains 20 radiotelephony phrases or sentences in routine and non-routine situations. Each sentence will be read only once. The candidate listens to each sentence and repeats it after the "Beep" sound. The computer keeps recording automatically. When the candidate finishes repeating one sentence, he/she may click "Next" prompt to continue the test. If the candidate can not finish repeating a sentence within the given time, the system will automatically go to the next. Rating of this part is done by the rater by selecting "Correct", "Partially Correct" or "Incorrect" option. This part takes about 15 minutes.

### 3) Simulated radiotelephony communication

This part evaluates the candidate's language proficiency in using ICAO standard phraseologies and plain language in the communications with ATC in routine and non-routine situations. It is designed to evaluate the candidate's overall language proficiency in specific simulated work environments. This part

consists of 15 to 20 exchanges. The scenarios used are unreal aviation charts and airline call signs (with reference to http://pilots.caac.gov.cn). Before the test begins, the relevant background information or charts will be displayed on the candidate's computer screen. Thereafter, the computer simulates ATC instructions and also provides narration if necessary. The candidate then completes the simulated radiotelephony exchange in the role of a pilot and with reference to the given conditions. A candidate will be given a maximum of 30 seconds to finish each exchange. If the candidate finishes the exchange within the given time, he can click the button for the next; otherwise the system will automatically jump to the next exchange. The candidate's voice is automatically recorded by the computer. Based on the standard answers, the candidate's performance will be rated from the highest Level 6 to the lowest Level 1 in respect of pronunciation, structure, vocabulary, fluency and comprehension. This part takes about 15 minutes.

### 4) Retelling Story (only for Advanced Level)

This part evaluates the candidate's language proficiency in listening to aviation-related English narrative and accurately retelling the story. Each aviation related short story lasts about 60-100 seconds with a delivery speed of about 100-120 words per minute. The recording is played twice with a 10 seconds interval. The candidates are allowed to take notes during the narration of the story. The candidate has 5 minutes to think and verbally retell the story. The system automatically jumps to next question after 5 minutes. The candidate needs to click "Start Recording" button to start and click "End Recording" to finish. The candidate will be scored between the highest Level 6 and the lowest Level 1 by the raters with reference ICAO descriptors for pronunciation, structure, vocabulary, fluency, and comprehension. This part takes about 10 minutes.

### 5) Oral Proficiency Interview (OPI)

The PEPEC Oral Proficiency Interview (OPI) is a direct test between interlocutor and candidate through a web-based connection (during which the interlocutor and candidate must establish both visual and aural connection via a computer to complete the listening and speaking tasks). The candidate's English proficiency is scored on a rating scale of 6 levels: the lowest Level 1 to the highest Level 6. Scores for each level are corresponding to the following descriptors: pronunciation, structure, vocabulary, fluency, comprehension and interaction.

The candidate initiates the OPI by clicking the "Start to Interview" button on a computer screen to make an interview request. The interlocutor accepts

the request by clicking the "Start to Interview" button on his/her computer screen. This establishes both visual and aural connections and the OPI begins. The candidate can end the OPI exam by clicking the "Finish Interview" button.

The OPI is divided into four stages: Warm up, Level check, Probe and Wind down. The OPI interlocutor asks questions of increasing difficulty according to candidate's performance during different phases of the test. Requirements of the various stages of the test are as follows:

Warm up: It lasts approximately 1-2 minutes. The candidate becomes familiar with the interlocutor's accent and prepares for the next stage by answering simple questions related to daily activities.

Level check: It lasts approximately 5-6 minutes. The candidate is given a preliminary assessment of his/her basic language level by answering work-related questions.

Probe: It lasts approximately 6-7 minutes. The OPI interlocutor asks more in-depth questions according to a picture shown on the computer screen. The candidate has the opportunity to demonstrate his/her language skills on aviation related topics. The interlocutor can better determine the candidate's English proficiency level.

Wind down: It lasts approximately 1-2 minutes. OPI interlocutor asks simple questions to ease the candidate and to conclude the test.

This part takes about 15 minutes.

### 2.3 Proposition Range

The proposition range of PEPEC question bank covers routine, non-routine and unexpected circumstances which pilots may encounter in real life flight. The test context and related tasks are designed to elicit the candidate's listening and speaking skills, so as to accurately evaluate the candidate's English language proficiency in "authentic" radiotelephony simulations.

To ensure test validity, PEPEC test materials selection and range are as follows (see Appendix II):

1) The general English language communications.

2) ICAO standard radiotelephony phraseology.

3) Radiotelephony communications in routine, non-routine and emergency situations.

4) Key information of work-related contents, including but not limited to aircraft, airports, airspace, routes, runways, weather, navigation and other aviation related tasks, safety rules and regulations, flight accidents and safety management.

### 3. PEPEC Language Proficiency Requirements

The format and contents of PEPEC are consistent with the requirements specified in relevant ICAO Annexes (1, 6 and 10) and guidance outlined by the ICAO Manual (Doc. 9835 ).  The PEPEC testing system is aligned to the six holistic descriptors provided by the ICAO Manual (Doc. 9835 ). The test is employed to determine if the candidate's language proficiency meets the requirements for radiotelephony communications as specified in relevant ICAO documents. It aims to evaluate the candidate's English proficiency through his/her language performance in routine and non-routine radiotelephony communication simulations. Moreover, it aims to assess his/her general English language proficiency involving work-related situations with a computer as the medium for face-to-face contact. The language proficiency requirements for different parts of PEPEC include:

### 3.1 Listening Comprehension

This part is designed to evaluate the candidate's ability to obtain information from utterances in specific aviation-related communication contexts. This includes the ability to identify main ideas, important facts and details as well as interpreting communicative functions of utterances and speaker's intentions. Language skills to be checked primarily include:

A. Ability to understand or grasp main ideas and specific details of utterances in specific contexts:

1）identify specific functions and details of utterances;

2）grasp main ideas of sentences;

3）make appropriate judgment of a speaker's intentions;

B. Ability to understand the listening materials through language cues:

1）identify phonetic features;

2）understand discourse meaning among sentences, such as comparatives, cause and effect, purpose and result, conjunctions etc.

This part is designed to assess the candidate's ability to obtain information from utterances. It is not meant to test intelligence or technical knowledge beyond language itself. Materials selected for listening test should be aviation related topics familiar to the candidates, such as: dialogues, statements, narrations, etc. The language applied should be commonly used verbal language, not written language. The vocabulary includes ICAO recommended and work-related phraseology.

When designing test questions, micro-listening skills specified by the syllabus should be built into the test and when compiling the listening comprehension section of the test, micro-listening skills should be proportionally measured.

### 3.2 Repeating Sentences

This part is designed to test the candidates' language proficiency for the standard radiotelephony phraseologies used in routine situations and plain language used in non-routine and emergency situations as well as their short-term memory ability in flight operations.

This part tests the following capabilities:

A. Listening comprehension skills

1) Standard radiotelephony phraseologies used in routine situations;

2) Plain language used in non-routine situations;

3) Plain language used in emergency situations.

B. Oral proficiency skills

1) Standard pronunciation;

2) Proper fluency;

3) Accurate repetition.

Based on the domains recommended in ICAO Doc. 9835, CAAC has published the PEPEC English 900, which includes the typical samples selected from the standard radiotelephony phraseologies used in routine situations and plain language used in non-routine and emergency situations. This booklet provides a comprehensive radiotelephony reference for pilots and covers the domains of this part.

### 3. 3 Simulated Radiotelephony Communication

This part is designed to evaluate the candidates' language communicative competence in specific radiotelephony communication contexts or situations in which they are expected to make accurate and fluent radio transmissions. In this part, the candidates should demonstrate their competence in understanding radiotelephony communicative tasks related to routine and non-routine situations. They should be able to promptly and accurately exchange information or convey messages regarding radiotelephony communication situations. They should also be able to properly and effectively exchange their ideas with air traffic controllers in specific communicative contexts. This part is designed to evaluate the following language skills:

A. Language proficiency in comprehension

Understand main ideas and significant details of radio transmission listening materials in normal and abnormal (emergency) situations.

B. Language proficiency in oral expression

1）Transmit important and specific information according to listening materials and contexts provided within the test.

2）Communicate with air traffic controllers based on specific procedures of

radiotelephony communication.

C. Language proficiency in application

1) Maintain fluent radiotelephony communication using clear pronunciation and intonation according to specific language contexts.

2) Give correct answers by using standard ICAO radiotelephony phraseologies.

3) Use plain language to appropriately express ideas if the use of standard ICAO phraseologies is inadequate to cover specific contexts in abnormal environments.

D. Language proficiency in oral expression

1) Use phraseologies commonly comprehensible by pilots and air traffic controllers in radiotelephony communication contexts.

2) Use correct communicative techniques to identify and avoid errors or misunderstandings in radiotelephony communication contexts.

3) Ability to produce clear, explicit and fluent statements.

The domains of the test of simulated radiotelephony communication are related to candidates' practical situations or work-related environments. Design of radiotelephony communication situations is limited to test-oriented aeronautical charts, airline call signs, etc. Contents of the test should cover radio transmissions in normal, abnormal and emergency situations. Candidates are expected to strictly adhere to the requirements specified in relevant ICAO documents and use standard phraseologies. Under particular circumstances, if standard phraseologies can not cover communication needs, plain language can be used for language communication to ensure smooth and proper exchange of information between air and ground.

**3.4 Retelling Story ( Only for Advanced Level )**

This part is designed to evaluate the candidate's overall listening and speaking proficiency. The candidate is expected to instantly review and summarize the aviation-related short story and then retell what has been heard in an accurate and coherent way. It is expected that correct grammatical structure and idiomatic expressions be used. Story retelling should be clear, objective and complete. Skills to be examined in this part include:

A. Capability to express ideas

1）Express central meaning of a recorded story.

2）Convey significant information or messages obtained from the recorded story.

B. Capability to organize the content of the story in proper sequence

1）Narration, argument and description should focus on key points relevant to the story.

2）Sentences and sentence structures should be organized in a coherent manner.

C. Capability to use language effectively

1）Use appropriate vocabulary.

2）Use correct grammatical structures.

3）Use suitable syntax.

4）Use appropriate conjunctions to express relationship of clauses within sentences (e.g.: comparison, cause, effect, extent, purpose, etc.).

D. Capability to express orally and accurately

1） Speak fluently with clear pronunciation and express ideas accurately.

Domains of test for story retelling mainly involve contents of aviation-related activities including flight incidents, accidents and professional knowledge associated with English language for special purposes. Candidates are expected to be able to instantly summarize and integrate the listening materials and retell the whole story in an accurate and objective manner.

### 3.5 Oral Proficiency Interview (OPI)

This part is designed to evaluate a candidate's capability in expressing ideas orally in a practical language environment. The interlocutor communicates with a candidate on topics of aviation- related knowledge or activities through face-to-face contact using a networked computer as the medium of delivery, i.e. through a remote testing procedure, to evaluate the candidate's oral proficiency and overall language proficiency. In this part, the candidate is expected to provide appropriate answers according to questions posed by the interlocutor and join in a meaningful discussion based on the given charts or topics. The candidate is expected to demonstrate oral proficiency in using plain English language to exchange ideas on specific aviation-related topics. Skills to be evaluated in this part include:

A. Capability to express ideas

1）Answer questions accurately;

2） Express ideas clearly on relevant topics.

B. Capability to use the language

1）Use appropriate vocabulary;

2）Use correct grammatical structure;

C. Capability to express orally with accuracy

1）Communicate effectively through "face-to-face" contact with a computer as a medium of delivery.

2） Communicate on common, concrete, and work-related topics with accuracy and clarity.

3) Demonstrate the skills to handle with relative ease the linguistic challenges presented by an emergency or unexpected turn of events that can occur within the context of a routine work situation or an unfamiliar set of circumstances.

4) Demonstrate the skills to maintain an interactive dialogue within the contexts of unexpected events or any work-related topics by flexible use of the language.

5) Demonstrate adequate oral proficiency in a fluent, clear and explicit manner.

The Oral Proficiency Interview is mainly accomplished through

conversations between interlocutor and candidate. The most important part of the interview lies in the process whereby the candidate answers questions posed by the interlocutor, which involves two aspects: one being related to candidate's plain English language proficiency (e.g. personal briefings, work, studies, hobbies, transportation, holiday activities, etc.) and the other being associated with his aviation English language proficiency.

## 4. PEPEC Rating Criteria

The PEPEC Rating Criteria are based on the ICAO Rating Criteria and language testing theories which are built into the PEPEC rating formats.

### 4.1. ICAO Rating Criteria

The ICAO Rating Criteria of language testing depict language proficiency levels in six areas: pronunciation, structure, vocabulary, fluency, comprehension and interaction. The rating criteria of PEPEC testing system are consistent to the ICAO language proficiency rating criteria for all aviation-related personnel. The ICAO language proficiency rating involves the following features:

Pronunciation: Evaluate the candidate's language proficiency in the use of pronunciation, stress, intonation and rhythm for communicative functions in real oral communication contexts or situations.

Structure: Evaluate the candidate's English language proficiency in appropriate use of grammatical structures and syntax, sentence patterns and the proper use of verb tenses in general and aviation-related contexts.

Vocabulary: Evaluate the candidate's ability to use vocabulary range and accuracy to communicate effectively on common, concrete, and work-related topics. Fluency: Evaluate the candidate's ability to speak with natural, effortless flow in general and aviation-related contexts.

Comprehension: Evaluate the candidate's ability to correctly understand questions given in the test so as to provide appropriate responses to them.

Interaction: Evaluate the candidate's ability to respond properly at an appropriate tempo in both general and radiotelephony communication contexts to achieve communicative objectives.

Refer to Appendix 1 of this document for the specific requirements of ICAO language proficiency in six areas mentioned above.

### 4.2. PEPEC Rating Process

The PEPEC rating process is initiated upon completion of the test with the results being uploaded into the main database by CAAC inspectors. Rating of the test is undertaken at a test center certified by CAAC. Rating of each portion of the test is accomplished by at least two PEPEC raters accredited by CAAC. If a discrepancy exists between the results given by the two raters involved, a third rater will be assigned automatically by the testing system in order to

achieve a fair rating result. PEPEC testing system is designed to assess pilots' overall language performance in speaking and listening. The focus of rating is on the use of radiotelephony phraseologies and plain English language in areas of pronunciation, structure, vocabulary, fluency, comprehension and interaction.

### 4.3. PEPEC Rating Criteria and Specifications

The rating criteria and specifications of PEPEC testing system are in compliance with the ICAO language proficiency rating criteria for aviation-related personnel. The PEPEC raters apply these specifications to the five different parts of the rating process.

Part 1

This part is the Listening Comprehension (Multiple Choice) section. It is designed to assess the candidate's listening proficiency. Rating is directly determined by a computer.

Part 2

This part is Repeating Sentences. There are two rating options to each short sentence, "Correct" or "Incorrect" and three rating options to each long sentence, "Correct", "Partially Correct" or "Incorrect". The rating is conducted by selecting one of the options based on the candidate's performance.

Part 3

This part involves simulated radiotelephony communication. Rating specifications of this part are as follows:

1）The evaluation is based on the number of correct responses to ten questions. The rating of candidate's responses is related to the areas of pronunciation, structure, vocabulary, fluency and comprehension. If the overall accuracy is lower than 70%, the candidate's proficiency in structure and comprehension only is rated as being equivalent to ICAO Level 3 or lower. If the overall accuracy is 70% or higher, the candidate's proficiency in these two areas is rated as being equivalent to ICAO Level 4 or higher. The overall rating includes assessment of the other three areas: pronunciation, vocabulary and fluency (refer to the descriptors in the ICAO Rating Scale).

2）The PEPEC testing system requires that the candidates follow the ICAO recommendations, use standard radiotelephony communication formats and phraseologies in practical communicative contexts, and respond in a clear, explicit and appropriate manner to unexpected events and non-standard aviation phraseologies.

Part 4

This part is Retelling Story. This part assesses the candidate's language proficiency ranging from "Level 1 to Level 6" across five areas of linguistic descriptors, including pronunciation, structure, vocabulary, fluency and comprehension. Rating specifications for this part include the following requirements:

1) Completeness, clarity and coherence in content and structure.
2) Accurate repetition of the original story as listened to by the test- taker.
3) Use of language in fluent and explicit manner.

Part 5

This part is Oral Proficiency Interview (OPI). This part is designed to evaluate the candidate's language proficiency rated from Level 1 to Level 6 across six areas of linguistic description: pronunciation, structure, vocabulary, fluency, comprehension and interaction. The rating specifications for this part include:

1）Rating of the candidate's overall language performance in both plain English and aviation English is determined on the basis of the requirements of the four phases of the Oral Proficiency Interview assessment: warm up, level check, probe and wind down.

2）The candidate provides answers to questions based on his/her own understanding, life and work experiences and general knowledge. There is no uniform standard to the form of the answers.

3）The candidate's overall language performance is evaluated across the six areas, pronunciation, structure, vocabulary, fluency, comprehension and interaction.

## 5.  Report of Test Result

PEPEC is a test developed with reference to the specific criteria described hereunder:

1）The design and composition of the various parts of the PEPEC testing system are based on the requirements and criteria as laid down in ICAO Doc. 9835.

2）The actual rating by interlocutors involves assessments of four parts (being parts 2 to 5) of the test, including Question Answering, Simulated Radiotelephony Communication, Retelling Story (for advanced levels) and Oral Proficiency Interview. They are carried out in accordance with relevant to CAAC and ICAO rating principles and criteria.

Upon completion of the test, the PEPEC testing system automatically advances to the last stage of the assessment process, i.e. calculation of overall scores. This is done by the computer according to predetermined protocol within the testing software. Proportional scoring values are assigned to each part of the test.

The scoring determined for each section of the test has a specific accuracy weighting and the computer automatically converts the weighting of each section into an overall ICAO equivalent level from Level 6 to Level 1. The computer then takes the lowest value in the six areas as the final language proficiency level of the candidate.

The final test result (i.e. whether the candidate has passed the applied test,

details of the scores is not released) is announced by the CAAC Flight Standards Department on the website for Pilot License and Test: http://pilots.caac.gov.cn and scores are maintained at least 5 years. Candidates can check their test result on the internet. Upon completion of a test, each accredited test center is responsible for printing a report of the test result for each candidate listing his proficiency levels in different parts and his final rated level. The test reports are sent by the test center to the regional CAAC authority office for validation.

# 6. Appendices
## Appendix 1. Language Proficiency Rating Scales ( ICAO )

# 1.1   Expert, Extended and Operational Levels

| LEVEL | PRONUNCIATION | STRUCTURE | VOCABULARY | FLUENCY | COMPREHENSION | INTERACTIONS |
|---|---|---|---|---|---|---|
| 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 | 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 | 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 | 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 |

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| | | | vocabulary in unusual or unexpected circumstances. | communication. Can make limited use of discourse markers or connectors. Fillers are not distracting. | or an unexpected turn of events, comprehension may be slower or require clarification strategies. | by checking, confirming, or clarifying. |

## 1.2 Pre-operational, Elementary and Pre-elementary Levels

| LEVEL | PRONUNCIATION | STRUCTURE | *VOCABULARY* | *FLUENCY* | *COMPREHENSION* | *INTERACTIONS* |
|---|---|---|---|---|---|---|
| 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 unpredictable 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 | Shows only limited control of a few simple memorized grammatical | Limited vocabulary range consisting only of isolated | Can produce very short, isolated, memorized utterances with | Comprehension is limited to isolated, memorized phrases when they are carefully and slowly | Response time is slow and often inappropriate. Interaction is limited to simple |

| | | | | | | |
|---|---|---|---|---|---|---|
| | usually interfere with ease of understanding. | structures and sentence patterns. | words and memorized phrases. | frequent pausing and a distracting use of fillers to search for expressions and to articulate less familiar words. | articulated. | routine exchanges. |
| Pre-elementary1 | 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).*

### Appendix 2    Test Domains ( ICAO )

The following inventory of events, domains and sub-domains are some that characterize the day-to-day communications of air traffic controllers and pilots. These "events" represent control situations, routine or non-routine, which all controllers must be able to handle. Each event may require familiarity with many lexical domains, to which are associated related words.

### 1. Events, Domains, Sub-domains in Aerodrome Control

**Airmiss(es)**

Air traffic rules; avoiding action; trajectory/flight path; speed; distance/range; aircraft characteristics; position.

**Air shows**

Traffic information; activity: acrobatics, formation flights; procedures.

**Approach delays**

Holding instructions; holding procedures; aerodrome circuit; endurance; diversion/alternate; necessary conditions; CAT III; all-weather landings.

**Belly landing**

Attempted maneuvers; status of lights; visual check (low pass); position of landing gear; endurance; fuel remaining; fuel dumping/jettisoning; speed; traffic information; state of runway; aerodrome environment; airport installations; emergency evacuation; emergency slides/escape chutes, etc.; fire hazard/risk; damage; ground services.

**Bird risk/hazard**

Position; quantity; names/types of birds; bird scaring in progress; damage to aircraft; delays; bird scaring methods; behavior of birds.

**Bomb threat/alert/scare**

Disembarking passengers; diversion; baggage identification; fuel dumping/jettisoning; aircraft

interior; crew actions/behavior; ground services; airport installations

**Cargo problems/**  Customs; type of cargo; (perishable) organs for

**dangerous goods**  transplant; toxic; substances; handling; packaging; veterinary services; police search; sniffer dogs; load badly fixed or damaged; intercepting; impounding.

**Fire on board**  Ground services; aircraft interior; smoke; asphyxia; smells; oxygen masks; warning lights; firefighting equipment; extinguishers; injuries; burns; medical assistance; fire brigade/firemen; emergency slides/escape chutes; engine shutdown; evacuation.

**Ground movement incidents**  Activity on the field; fire brigade training exercises and interventions;
vehicles on the field; braking action and visibility; traffic information; startup; towing equipment; engine checks; remote holding pattern; holding point; runway infringement; delays; stuck in the mud; damage caused by vehicles on the ground; no entry disregarded; collisions; vehicle or plane breakdown; damage to beacons; foreign objects (name, description); problems boarding or disembarking passengers; baggage identification; means of disembarking; health services; handicapped/sick passengers; parking position/space.

**Health problems**  Symptoms; first aid; aircraft interior; type of medical assistance; medical background of passengers; diversion; airport installations; ground services; sickness; discomfort; wounds; epidemics; medical equipment; blood (group, transfusion, etc.); medical advice; the human body; forensic surgeon; quarantine; food poisoning; food; vaccines; medical staff; medicines and artificial limbs.

**Incidents on landing**  Long/short landing; missed exit; stuck in mud; weather; cargo problems; runway confusion; bird or animal hazard; damage to tires; aircraft breakdown;

missed approach.

**Industrial action** Ground staff; control/operational staff; effects on traffic; delays; types of strike; demonstrations; sit-ins.

**MET (weather) conditions** ATIS (visibility, clouds, etc.); (thunder) storms, lightning; damage and breakdown; snow clearing; gusts; wind shear and microburst; minima; state of runway; tailwind, crosswind; braking action; runway visual range; temperature inversion; turbulence; natural disasters; runway closed; change of runway.

**Missed approach** Go-around; minima; traffic position; endurance; reasons; traffic; procedures; speed.

**Parachute jumping/** Position; information on other traffic and activity;

**Dropping activity** duration of drop; drop zone.

**Pilot not familiar** Procedures; airfield installations; ground services.

**with airfield**

**Pilot's temporary disability** Health problems; aircraft controls and instruments; pilot's actions/behavior; airfield environment; airport installations.

**Problems linked to flight plan** Delays; slots; flight plan updating; computer breakdown; no flight plan; flight plan conformity; flight plan processing; search and rescue; type of flight plan.

**Problems linked to passenger's behavior+**

**unlawful inference** Violent/threatening behavior; reasons (drunkenness, etc.); aircraft interior; damage; weapons; actions to overpower; police/fire rescue team assistance requested; demands; ethnic origin; physical description of person(s);

political allegiances; ground services; airport installations; injuries/wounds; stowaways

.

**Re-routing/diversion**  Approach charts; procedures; routing; endurance; weather; airport installations; ground services; aircraft breakdowns.

**Special flights**  ILS calibration; special test flight procedures; banners, balloons, etc.; ultra lights, gliders; helicopters; aerial photography; highway watch; firefighting aircraft; supervision of power lines; military training procedures; types of military aircraft.

**Take-off incidents**  Abort; bird/animal hazards; traffic interference; runway incursion; overheating; towing; 180° turn back; runway excursion; cancellation and change of clearance; problems with steering gear, engine power; aircraft breakdown.

**VFR flights lost/in**  Aerodrome environment; direction finder; manoeuvres for identification;
**Difficulty**  Endurance problems; installations at alternate/diversion field; forced/crash landing; ground services.

**VIP flights**  Official ceremonies; protocol (greetings, etc.); ferry flight; military escort; diplomatic clearance; country names and nationalities; apron/ramp; terminal; boarding and disembarking of passengers; VIP vehicles; effects on traffic.

## 2. Events and Domains Linked to En-route Air Traffic Control

**Administrative problems**  Diplomatic clearances; customs regulations; civil service departments; impounded aircraft.

**Aids for VFR flights**  Instrument panel; on-board equipment; pilot rating; flight plan; local place name; visual landmarks; positions; directions; endurance; aircraft breakdown; weather problems.

| | |
|---|---|
| **Aircraft breakdowns** | Instrument panel; instrument operation; radio beacon; positions/fixes; noises/sounds; smells; smoke; airport installations; ground services; engine performance; speed; relief/high ground; actions to solve problem; weather; fuel dumping/jettisoning; flight profile; structural damage (glass, metal); flight systems; aircraft controls; response to controls; airframe; warning lights; landing gear. |
| **Aircraft proximity +** <br><br> **pilot complaints** | Conflict situations; traffic load; aircraft characteristics; flight profile; weather conditions; injuries; distance/range; pilot maneuvers; rules; procedures; avoiding action. |
| **ATC system breakdowns** | ATC equipment/systems; radar display; radar performance; radio operation; previous messages; relaying messages; actions to repair; delays/duration; telephone lines. |
| **Bomb scare** | Aircraft interior; search methods; fuel dumping/jettisoning; ground services; airport installations; ground movements. |
| **Cargo problems** | Packaging; substances; toxic substances; animals; smells; |
| -**dangerous goods** loading/unloading. | cabin equipment; load distribution; |
| **Change in flight plan** | Flight plan. |
| **Collisions** | Airframe; structural damage (glass, metal, etc.); response to controls; debris; airport installations; ground services; relief/high ground; weather conditions; aerodynamic behavior. |
| **Fire on board** | Outbreak of fire; control of fire; damage; aircraft interior. |
| **Health problems** | Parts of the body; organs; symptoms; sicknesses; injuries/wounds; artificial limbs; medicine/drugs; first aid; medical equipment; medical staff; medical specialists; vaccines; quarantine. |
| **Lack of fuel** | Airport facilities/installations; ground services; high ground; positions/ locations; endurance/fuel remaining. |

**Misunderstandings**          Previous messages; types of messages; radio performance.

**Passenger behavior**
**+ unlawful interference**          Violent threatening behavior; drugs; firearms; injuries; mental instability; nationalities; political allegiances; demands, threats; ground services; medical assistance; means of calming; means of overpowering; flight deck and cabin personnel.

**Request to relay**          Names of people; means of relaying.

**Special conditions on arrival** State of the traffic on the ground; priority flights; industrial action; accidents; weather conditions on the ground; ground equipment failure; airport installations; ground services; curfew; approach procedures.

**Special flights**          Type of aircraft; ferrying; diplomatic personnel; country names; nationalities; aeronautical military slang; military exercises; in-flight/mid-air refueling; pilot man oeuvres; positions/fixes; weather conditions; VFR/IFR procedures; visual flight rules; airport installations; ground services.

**Unauthorized maneuvers**          Airspace; rules; previous messages; flight profile; positions/locations; stall levels.

**Weather/MET problems**          Icing problems; clouds; struck by lightning; turbulence; external parts of aircraft; engine performance; response to controls; instrument performance; alarms; violent movements; relief/high ground; flight profile; injuries; blindness/loss of visibility.

### 3. Other Domains

**Activities on the field**          Change of runway and pattern; ramp vehicles; snow clearing; sweeping; mowing; harvesting; closure; opening of runway access roads; runway inspection.

**Aerodrome/airfield**          Topography (hill, slope, coastline, forest, etc.); civil engineering (water, tower, bridge, pylon, etc.); high ground/terrain; built-up areas; roads and railway lines; power lines; cardinal points; particular local activities (firing range, etc.); agricultural activities.

**Environment**

**Aircraft breakdowns** Aircraft spare parts; systems (oxygen, hydraulic, electrical, deicing, etc.); flight deck/cockpit; controls; instruments; instrument operation; noises and symptoms of malfunction; transponder problems; loss of radio contact; malfunctions; overheating (brakes, engine, etc.); fuel dumping/jettisoning; landing gear/tires.

**Airfield facilities/ installations** ILS, radar, VOR, etc.; lighting systems; reliability of radio aids; direction finder; poor visibility equipment; aprons/tarmac/ramps; runways; taxiways; length and width of runway; parking zone; holding area; terminal; cargo area; bearing strength.

**Ground services** Opening hours; availability of services at night; assistance

on the ground; safety altitude; passengers/persons on board;

unserviceable equipment (stairs, luggage trolleys, etc.); auxiliary power unit; de-icing; refuelling; delay due to de-icing or refuelling; bird scaring; towing; firefighting methods; safety services; medical assistance; baggage handling.

**Procedures** Noise abatement; departure; approach; all-weather take-off and landing; go-around; holding procedures; land use; curfew; local residents.

**Ground services** Opening hours; availability of services at night; assistance

on the ground; safety altitude; passengers/persons on board;

unserviceable equipment (stairs, luggage trolleys, etc.); auxiliary power unit; de-icing; refueling; delay due to de-icing or refueling; bird scaring; towing; firefighting methods; safety services; medical assistance; baggage handling.

**Procedures** Noise abatement; departure; approach; all-weather take-off and landing; go-around; holding procedures; land use; curfew; local residents.

**Appendix 3 PEPEC Sample Test**

For PEPEC sample test, please refer to the website for Pilot License and Test: http://pilots.caac.gov.cn.

**The end**