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They provide information and explanation or may indicate best practice.*

# **Proficiency Test in English Language for Air Traffic Controllers**

Edition Number	:	3.0
Edition Date	:	05.03.2004
Status	:	Released Issue
Intended for	:	EATMP Stakeholders

## DOCUMENT CHARACTERISTICS

### Proficiency Test in English Language for Air Traffic Controllers

<b>Document Identifier</b>	<b>EATMP Infocentre Reference:</b> 040201-03
HUM ET1 ST05 3000-GUI-01	<b>Edition Number:</b> 3 0
	<b>Edition Date:</b> 05 03 2004

#### Abstract

The Proficiency Test in English Language for Air Traffic Controllers (PELA Test) was developed in recognition of the need for (student) air traffic controllers to demonstrate proficiency in English when standard International Civil Aviation Organization (ICAO) Radiotelephony (R/T) phraseology proves inadequate for effective aeronautical communication. Completed in 1994, the PELA Test underwent a period of evaluation in 1995-97 with almost three hundred student controllers from six States.

This edition describes the changes made to the PELA Test arising from comments made by the first User Group Meeting in February 2001.

The PELA Test is fully compatible with the requirements of ICAO's Language Proficiency Standard - Level 4, Operational (detailed in the Guideline to Annex 1, 'Personnel Licensing' [2004]).

The actual deliverable is the PELA Test, available under conditions specified in a licence agreement between EUROCONTROL and European Civil Aviation Conference (ECAC) Member States. However, a sample test can be freely consulted.

#### Keywords

Oral responses	Interactive	Appropriacy	Trialling
Listening	Language proficiency	Test validity	Interlocutor
Effective communication	Test security	Rater	Candidate

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#### Status

#### Intended for

#### Accessible via

Working Draft	<input type="checkbox"/>	General Public	<input type="checkbox"/>	Intranet	<input type="checkbox"/>
Draft	<input type="checkbox"/>	EATMP Stakeholders	<input checked="" type="checkbox"/>	Extranet	<input type="checkbox"/>
Proposed Issue	<input type="checkbox"/>	Restricted Audience	<input type="checkbox"/>	Internet (www.eurocontrol.int)	<input checked="" type="checkbox"/>
Released Issue	<input checked="" type="checkbox"/>	<i>Printed &amp; electronic copies of the document can be obtained from the EATMP Infocentre (see page iii)</i>			

**Path:** G:\Deliverables\HUM Deliverable pdf Library\

#### Host System

#### Software

#### Size

Windows\_NT

Microsoft Word 8 0b




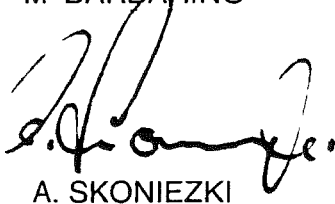

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## DOCUMENT CHANGE RECORD

The following table records the complete history of the successive editions of the present document

1 0	21 10 1996	Released Issue of first edition	All
1 1	15 10 1997	Revised first edition editorial changes, inclusion of en-route version	All
2 0	30 12 1999	Released Issue of second edition	All
2 1	22 05.2003	Draft of third edition changes to the PELA Test layout and format	All
2 2	17 11 2003	Proposed Issue of third edition, for HRS-PSG Meeting end of January 2004 document configuration and editorial changes	All
3 0	05 03 2004	040201-03 Released Issue of third edition (agreed on 28-29 01 2004) final configuration adjustments	All

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## SUPPORTING MATERIAL

The deliverable HUM ET1 ST05-DEL05, 'Proficiency Test in English Language for Air Traffic Controllers', consists of the following material

- this guidance document, 'Proficiency Test in English Language for Air Traffic Controllers' (HUM ET1 ST05 3000-GUI-01), providing information about the PELA Test, and
- a number of annexes:

Annex 1: 'PELA Test' (HUM ET1 ST05.3000-TST-01)  
*Complete test version - restricted distribution.*

Annex 2: 'Guidelines for Administrators of the PELA Test' (HUM.ET1 ST05 3000-GUI-02)

Annex 3: 'Training Package for PELA Test Raters' (HUM ET1 ST05 3000-GUI-03)  
*Restricted distribution.*

Annex 4: 'Training Package for PELA Test Interlocutors' (HUM ET1.ST05.3000-GUI-04)  
*Restricted distribution*

Annex 5: 'PELA Test Sample Version' (HUM.ET1 ST05.3000-EXP-01)

Annex 6: 'Report on the Evaluation Phase of the PELA Test' (HUM ET1 ST05.3000-REP-01 - EATCHIP, 1997 - T4).

Note As explained in further detail in Section 8.3 of this document, between 1992 and 1999 the PELA work was adopted by the EATCHIP1 Programme and the above numbering was allocated to the PELA products. Since 1999 the project is being developed as part of the Training Sub-Programme of the EATM(P)<sup>1</sup> Human Resources Programme under Work Package number HRS/TSP-005. However, for simplification purposes the former EATCHIP reference system has been maintained. Nevertheless, it is planned that some of the above-listed documents will be revised, the new HRS/TSP-005 numbering will be then allocated to those updated publications.

All test and information materials are currently available in CD-ROM format using MS Word 97 SR-2 and Corel Draw 9.0 software.

Audio recordings of pilot and controller messages (on CD-ROM) accompany Annexes 1, 3, 4 and 5.

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<sup>1</sup> In 1999 the 'European Air Traffic Control Harmonisation and Integration Programme (EATCHIP)' was renamed the 'European Air Traffic Management Programme (EATMP)'. Today it is known as 'European Air Traffic Management (EATM)'.

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## **EXECUTIVE SUMMARY**

This guideline document, 'Proficiency Test in English Language for Air Traffic Controllers (PELA Test)', presents a descriptive overview of the PELA Test. For reasons of security the test itself cannot be made freely available although a sample test has been created and this is available for use by all.

After a number of years of implementation, feedback from English language teachers, test candidates and PELA Test administrators indicated the need for a review of the PELA Test and in particular the need for more test versions.

This third edition of HUM.ET1 ST05.3000-GUI-01 outlines results of the review and the development of new versions of the PELA Test carried out by the PELA Working Group. The Group aimed to make the test more acceptable to candidates and to improve the efficiency of test administration. To achieve this second objective a parallel project was undertaken to have PELA Test Paper 1 (Listening) and Paper 2 (Oral Responses) available on the Internet through the worldwide Web ([www](http://www)).

The English language proficiency requirements of PELA have been harmonised with the descriptors for Level 4 of ICAO's language proficiency standard for plain language in aeronautical communication. These language performance features, necessary for the rating of the Oral Responses and Oral Interaction papers of the PELA Test, can be found in Section 7.

The PELA Test has been developed to serve the needs of the European Air Traffic Control Services for proficiency in English language in aeronautical communication

The PELA Test has been specifically designed for student air traffic controllers and it is recommended that the test be administered at the end of a student controller's last phase of institutional training prior to commencing the final phase of On-the-Job Training (OJT).

In order to maintain the integrity of the test and to ensure, as far as is possible, the security of the test, each State will be responsible for the proper administration of the PELA Test.

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## **1. INTRODUCTION**

### **1.1 PELA in Use**

Development and construction of the PELA Test was completed in December 1994. In 1995 and 1996 more than three hundred student air traffic controllers participated in a successful evaluation of the PELA Test (see EATCHIP, 1997 – T4). Since then more than twenty EUROCONTROL and European Civil Aviation Conference (ECAC) Member States have signed licence agreements to implement the test. A number of non-European States continue to maintain an interest in PELA.

### **1.2 Need for Development**

PELA users met for the first time in Luxembourg in February 2001 to discuss the implementation and administration of the PELA Test. Feedback from both language teachers and students emphasised the need for further development. The users wanted more versions of the test, improved quality of audio material and a more efficient test administration. In February 2002 review of the PELA Test commenced and a programme of development initiated. Experts from nine States and two administrations formed the PELA Working Group.

### **1.3 Terms of Reference**

The Terms of Reference of the PELA Working Group, as agreed by the Training Sub-Group, today renamed the Training Focus Group (TFG), at its fifteenth meeting (TSG/15), and approved by the Human Resources Team at its sixteenth meeting (HRT/16) in October 2001, were to

- develop additional versions of the existing PELA Test,
- improve, as appropriate, the quality of audio recordings and graphics;
- apply computer-based techniques to improve the efficiency of the administration and rating of the Listening and Interactive 1 Sections of the PELA Test

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## **2. TEST DESIGN**

### **2.1 Aim of the PELA Test**

The test is designed for student air traffic controllers with the specific aim of -

**determining the proficiency in English, at an agreed minimum level, which will allow air traffic controllers to carry out their tasks, ensuring safety and expedition to air traffic, in the international environment in which they work.**

The test therefore reflects a range of tasks undertaken in Air Traffic Control (ATC) but with the specific focus on language use rather than operational procedures

### **2.2 General English Requirements**

Because of the specific nature of the PELA Test, it is recommended that student air traffic controllers first attain a level of proficiency in plain English before commencing the specialised ATC English training leading up to the PELA Test

This level of proficiency in plain English is broadly equivalent to such recognised tests as Cambridge First Certificate (University of Cambridge), the Anglo-Continental English Language Pre-test System (Anglo-Continental Educational Group), EUROCONTROL (1996 & 2003) English language Placement Test (EPT, at 65%) or similar English language training will therefore have to reflect these broad-based general English requirements as well as providing training in the more specialised ATC language that is the focus of the PELA Test. Students should be encouraged to continue learning and practising English beyond this level.

The minimum level of language proficiency to be demonstrated by operational air traffic controllers is prescribed as Level 4 (operational) of the ICAO standard for language proficiency for aeronautical communications. Details can be found in the Guideline to ICAO (2004) Annex 1: 'Personnel Licensing'. The PELA Test is fully compatible with Level 4.

### **2.3 English Language and ATC Training**

Since the PELA Test has been specifically designed for student air traffic controllers and reflects the realities of ATC, knowledge of ATC procedures and ICAO Radiotelephony (R/T) phraseology are essential. It is suggested that the PELA Test be administered to student controllers towards the end of their final phase of ATC training. Ideally this specialised aviation English training would take place in parallel with ATC training.

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### **3. STRUCTURE OF THE PELA TEST**

#### **3.1 The PELA Test Four Papers**

Paper 1 – Listening

Paper 2 - Oral Responses

Paper 3 - Oral Interaction

Paper 4 - Reading (optional)

In order to be awarded a pass in the PELA Test, candidates are required to obtain a mark of at least 70% in each of Papers 1 and 2, and a pass in Paper 3

Candidates are expected to adhere strictly to published ICAO R/T phraseology and, where necessary, demonstrate an ability to communicate effectively in natural English in non-routine and emergency situations

#### **3.2 Paper 1 - Listening**

Candidates listen to authentic pilot and controller communications. Following instructions given for each section of the listening paper the candidate will write, in the space provided, the requested information. This is not a test of written English and candidates are not penalised on their grammatical ability. All responses are of the completion/short answer type.

The listening paper lasts approximately forty minutes.

#### **3.3 Paper 2 – Oral Responses**

In this interactive section of the PELA Test candidates are given information in the form of written material, i.e. a booklet of aerodrome ground charts, approach radar charts or en-route radar charts with aircraft positions indicated. They will then listen to a series of pre-recorded pilot messages to which they must make a linguistically correct and appropriate response. Their responses are recorded for analysis.

This paper lasts about twenty minutes.

#### **3.4 Paper 3 – Oral Interaction**

In Phase 1 (of oral interaction) an interlocutor, normally an air traffic controller trained to elicit from the candidate the required English language responses,

plays the part of a pilot who has a developing unusual or emergency situation in conformity with prepared scripts. The candidate, acting as the controller, interacts with the interlocutor.

Phase 2 (of oral interaction) begins when the interlocutor is confident that the candidate has understood the exact nature of the pilot's problem by checking, clarifying and confirming all relevant information. In this second phase the candidate remains as the controller, while the interlocutor plays the part of the ATC supervisor. The candidate must then report the events of the unusual situation giving all relevant details, and may be asked by the interlocutor to confirm and clarify information.

The scenarios in Paper 3 do not require the candidate to provide separation to aircraft nor to have knowledge of local ATC procedures. The candidate will be rated on his/her ability to understand and clarify a problem communicated to them by a pilot and on their performance in relaying the details of this situation to a third person.

Paper 3 of the PELA Test should last no more than fifteen minutes.

### **3.5 Paper 4 – Reading (optional)**

This section, developed at the request of some States, contains eighty items and is of approximately 45 min duration. It is not considered essential to the main aim of the test.

Candidates are required to demonstrate their ability to understand and interpret written texts in English. Written answers (short phrases, completion) are given in response to questions relating to selected extracts of text from typical Air Traffic Services (ATS) documents.



### 3.6 Structure of the PELA Test

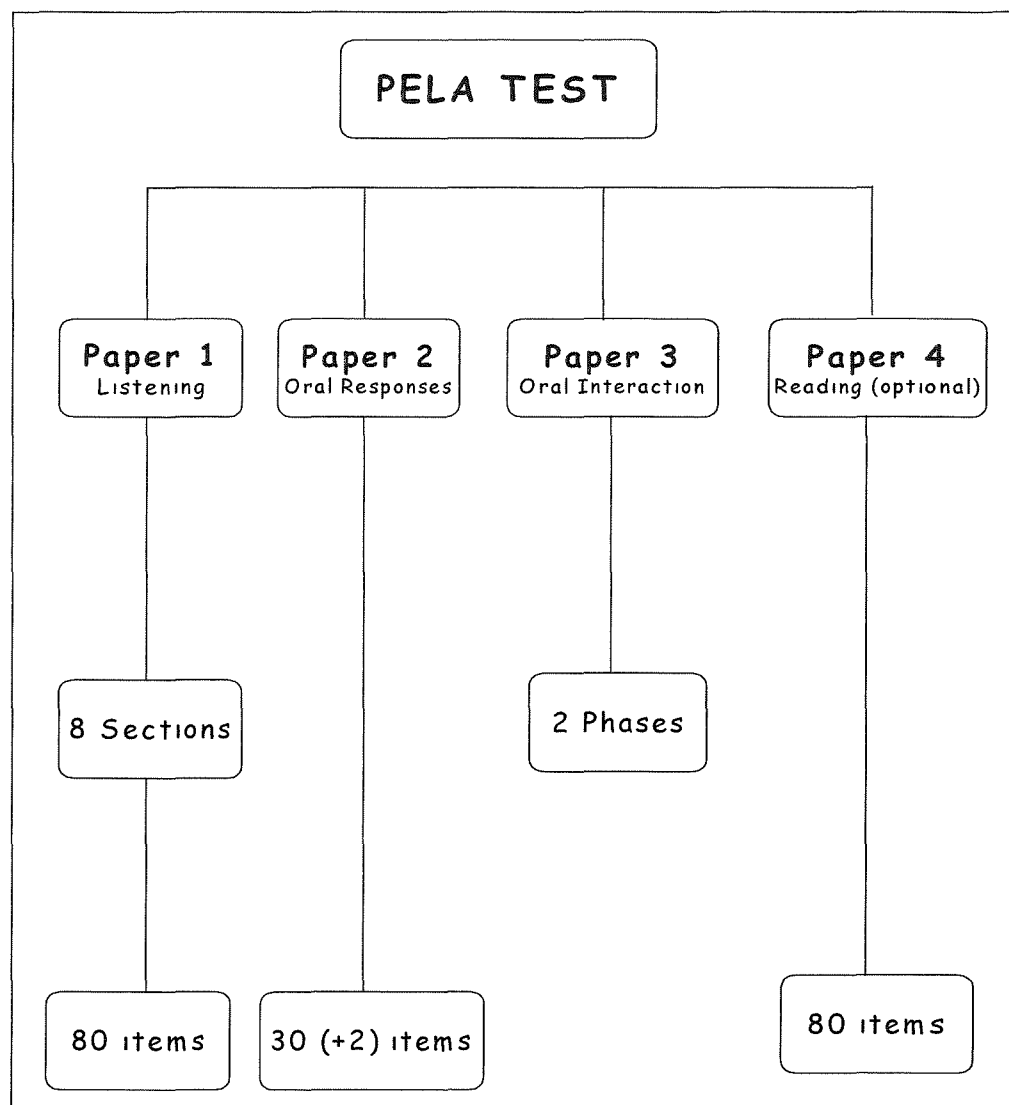


Figure 1 Structure of the PELA Test

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## **4. MODIFICATIONS TO THE PELA TEST**

In line with recommendations made by the User Group a number of improvements to the structure, layout and format of the PELA Test have been made. The actual test items, previously validated, remain unchanged from the original versions of PELA.

### **4.1 Paper 1 – Listening**

- No change to the name
- All versions now have the same format and presentation
- Existing test items retained but number increased from 68 to 80
- Better balance of ATC functions (tower, approach and en-route)
- Simplified tables
- Easier to read instructions
- Improved layout – less distraction for candidates
- Pass mark increased from 50% to 70% (56/80)

### **4.2 Paper 2 – Oral Responses**

- Originally titled 'Interactive 1'
- More versions of tower, approach radar and en-route radar
- Revised charts
- Two practice items included
- Number of test items increased from 28 to 30
- Pass marks for language performance and appropriacy both increased to 70% (21/30)

### **4.3 Paper 3 – Oral Interaction**

- Originally titled 'Interactive 2'
- New scenarios developed for tower and approach functions
- Common PELA charts (same as for Paper 2) applied throughout
- More versions developed

#### **4.4 Paper 4 – Reading (optional)**

- No change to the name
- Format revised
- One book includes texts and questions together
- Number of test items increased to 80
- Better balance of question types

#### **4.5 Rating Scales**

- Rating scales for Papers 2 and 3 are aligned to the ICAO standard of language proficiency required for aeronautical communication (Level 4, operational). Note a Pass+ in Paper 3 equates to ICAO Level 5
- Terminology standardised.
- Descriptors for features specific to PELA retained – phraseology, formulaic phraseology and the impact of appropriacy on safety
- ‘Pronunciation’ for PELA remains at a higher level than ICAO Level 4.

Note see Section 7 for details on the Rating scales.

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## **5. ENGLISH LANGUAGE PERFORMANCE REQUIREMENTS**

### **5.1 Effective Communication**

In order to achieve a pass in the PELA Test, candidates should be able to:

- a) Adhere strictly to published ICAO R/T phraseology when giving and requesting information, giving instructions (and clearances) and producing other communications with pilots (or other controllers) in standard ATC situations;
- b) Display the ability to produce messages in natural language in common situations that necessitate departure from ICAO R/T phraseology;
- c) Demonstrate the ability to produce intelligible messages for pilots in unusual or abnormal ATC situations that require a greater linguistic ability than in a) and b) above;
- d) Demonstrate the ability to produce clear, concise and unambiguous use of natural language, even under stress, when ICAO R/T phraseology cannot adequately serve a transmission,
- e) Understand and make the appropriate linguistic response to a message transmitted by a pilot using either published ICAO R/T phraseology or natural language;
- f) Resolve misunderstandings in communication due to:
  - the limited language competency of the transmitter (pilot-controller),
  - noise and/or other distortion, e.g. accent of speaker,
  - a stress-induced situation;
- g) Demonstrate an effective use of natural language so as to manage the pilot-controller and controller-controller relationships, e.g. problem solving, reprimand, reassurance, etc

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## **6. SPECIFIC TEST OBJECTIVES**

In order to meet or exceed the English language performance requirements of the PELA Test, candidates must demonstrate ability in the following set of specific test objectives

### **6.1 Paper 1 - Listening**

The candidate should be able to understand communications between pilot-controller and between controller-controller in which the pilot or controller:

- reads back and/or acknowledges a controller message,
- requests approval or clearance,
- gives information,
- requests information,
- gives/requests reasons,
- requests the controller to do something,
- checks, confirms and clarifies,
- gives/denies approval and clearance (controller only)

The candidate should be able to:

- recognise the communicative function of messages with and without explicit indicators. (For example, is the message an instruction, a request or a query?)

### **6.2 Paper 2- Oral Responses, and Paper 3 - Oral Interaction**

In simulated interactions between pilots and controllers, the candidate should be able to:

- give instructions,
- give information,
- request information,
- give/deny approval and clearance,
- give/request reasons,
- check, confirm and clarify.

The candidate should also be able to understand messages in which the pilot:

- reads back and/or acknowledges controller message,
- requests approval or clearance;
- gives information,
- requests information;
- gives/requests reasons;
- requests the controller to do something;
- checks, confirms and clarifies,

- recognises the communicative function of messages with and without explicit indicators. (For example, is the message an instruction, a request or a query?)

### **6.3 Paper 4 - Reading (optional)**

This is an optional paper and not considered as being essential to the main aim of the test. However, it was developed at the request of some States and allows candidates to demonstrate their ability to understand and interpret ATS texts in English.

In Paper 4 candidates respond to eighty items relating to selected extracts of text from typical ATS documents. They are required to provide written answers in the form of short phrases.

The paper has a duration of approximately 45 min.



## **7. RATING SCALES FOR THE INTERACTIVE PAPERS OF THE PELA TEST**

### **7.1 Paper 2 - Oral Responses**

Paper 2 is rated separately on the appropriacy of the candidate's response to a given pilot message **and** on his/her performance of English expression

Each of the (thirty) responses given by the candidate scores either a 0 or a 1 for both appropriacy of response and English language performance features (See pages 20 and 21 )

To pass Paper 2 of the PELA Test a candidate must score at least 21/30 (70%) on **both** appropriacy and language performance

These pass marks have been revised upwards from the original test to reflect improvements made to the PELA Test by the PELA Working Group (2002).

### **7.2 Paper 3 - Oral Interaction**

Paper 3 is rated on the overall proficiency of the candidate in his/her use of English expression in being able to understand and clarify a problem communicated by a pilot. Successful candidates receive a Pass or Pass+ mark (See pages 22, 23 and 24.)

**Paper 2 – Oral responses** is rated on both the appropriacy of the response and on language performance

**Paper 2: Band 0 – Performance below the required standard**

**APPROPRIACY OF RESPONSE**

There is no response or the response is not appropriate. The candidate is unable to identify the main points and the important details of the incoming message and/or is unable to formulate a relevant response. *Any response which compromises the safety of aircraft is considered inappropriate.*

**LANGUAGE PERFORMANCE FEATURES**

***Overall***

In order for the candidate's message to be understood, the listener has to make considerable allowances. The comprehensibility of the message is affected by the presence of some or all of the performance features described below

***Fluency***

There are undue hesitations and difficulty in producing utterances. Hesitations longer than three seconds at the beginning of a message and longer than two seconds in the middle of a message should be critically reviewed in relation to the complexity of the situation and the impact on overall fluency

***Pronunciation***

There are frequent inadequacies, or mother tongue interference, in pronunciation, rhythm, stress or intonation. The listener has to make considerable allowances for the candidate and the intelligibility of the candidate's production is affected

***Vocabulary***

Limitations in the range of lexis and expression cause difficulties of comprehension for the listener.

***Phraseology***

The candidate has problems with phraseology and produces non-phraseological forms. This may be evidenced in a lack of clarity or conciseness and the existence of ambiguities

**Paper 2: Band 1 - Performance at or above the required standard**

**APPROPRIACY OF RESPONSE**

The message is an appropriate response to the stimulus. The candidate is able to identify and respond to the main point(s) and important details in the incoming message, although minor mistakes in interpreting specific items of information related to the use of the candidate charts or notes are acceptable.

**LANGUAGE PERFORMANCE FEATURES**

***Overall***

The candidate's message can be understood although the listener may have to make some allowances.

***Fluency***

The candidate produces stretches of language at an appropriate tempo. There may be some hesitations or apparent slowness in language processing but these are not frequent or intrusive enough to place unacceptable strain on the listener.

***Pronunciation***

The candidate's pronunciation, rhythm, stress or intonation may affect accent (i.e. the candidate may sound like a non-native speaker) and this may require the listener to make some allowances for the candidate but it will not usually affect intelligibility or ease understanding.

***Vocabulary***

Vocabulary range and accuracy are usually sufficient to communicate effectively. Any restrictions will not greatly affect the overall comprehensibility of the message but may have a small effect on conciseness and demand a little extra concentration from the listener.

***Phraseology***

Standard phraseology is used. The candidate may have some difficulties arising for instance from the lack of operational ATC experience but, even though there may be some strain on the listener, the message is clear, concise and unambiguous.

**Paper 3 – Oral Interaction** is rated on the overall proficiency of the candidate in his/her use of English expression in being able to understand and clarify a problem communicated by a pilot

**Paper 3: Band 0 - Performance below the required standard**

***Overall***

In general, the candidate's production is not clear with much ambiguity. The interlocutor and/or the candidate frequently have to negotiate meaning.

***Comprehension***

The candidate's understanding of the main points and details in the interaction is in doubt. Displays of apparent understanding during Phase 1 are not fully substantiated by the report given by the candidate in Phase 2.

***Interaction***

The candidate may be partially able to compensate for information which has not been fully understood by checking, confirming or seeking clarification of information but is unable to respond in full to the demands of the interaction. Responses are not always appropriate or relevant to the context of the interaction.

***Fluency***

The candidate's fluency is adversely affected by undue hesitation and/or apparent difficulties in producing utterances. There may be some use of formulaic phraseology (e.g. 'stand-by', 'roger', 'call you back', etc.) to act as fillers and to maintain a surface impression of fluency, but this does not adequately compensate for an obvious weakness in this area.

***Pronunciation***

There are frequent inadequacies, or mother tongue interference, in pronunciation, rhythm, stress or intonation. The listener has to make considerable allowances for the candidate and the intelligibility of the candidate's production is affected.

***Vocabulary***

Limitations in the range of lexis and expression may cause difficulties of comprehension for the listener. Word choice is often inappropriate. The candidate is often unable to paraphrase successfully when lacking vocabulary.

***Grammar structure***

Basic grammatical structures and sentence patterns are not always well controlled. Errors frequently interfere with meaning.

***Phraseology***

The candidate's use of R/T phraseology is frequently inaccurate or inappropriate. The candidate also lacks confidence in switching between phraseology and appropriate plain language.

### **Paper 3: Band 1 - Performance at or above the required standard**

#### **Overall**

In general, the candidate's production is clear, concise and unambiguous, although at times the interlocutor and/or candidate may need to make some allowances or negotiate meaning

#### **Comprehension**

The candidate is in touch with the essentials of the interaction although for unusual or complex messages comprehension may be slower or require clarification strategies. The report given by the candidate in Phase 2 corresponds in broad outline and essential facts to the content of the interaction during Phase 1

#### **Interaction**

Responses are usually immediate, appropriate and informative. The candidate initiates and maintains exchanges even when dealing with an unexpected turn of events. He/she deals adequately with apparent misunderstandings by checking, confirming or clarifying.

#### **Fluency**

The candidate produces stretches of language at an appropriate tempo. There may be some hesitations or apparent slowness in language processing but these are not frequent or intrusive enough to place unacceptable strain on the listener. Formulaic phraseology (e.g. 'stand-by', 'roger', etc.) may act as fillers and as strategies to minimise the effects of hesitations. However, these will in general assist the listener and will not impede the clarity of the message.

#### **Pronunciation**

The candidate's pronunciation, rhythm, stress or intonation may affect intelligibility (i.e. the candidate may sound like a non-native speaker). This may require the listener to make some allowances for the candidate but will not usually affect intelligibility (i.e. the message can be understood).

#### **Vocabulary**

Vocabulary range and accuracy are usually sufficient to communicate effectively. Any restrictions will not greatly affect the overall comprehensibility of the message but may have a small effect on conciseness and demand a little extra concentration from the listener. The candidate can usually paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.

#### **Grammar structure**

Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur but rarely interfere with meaning.

#### **Phraseology**

The candidate is, in general, able to use R/T phraseology accurately and appropriately, although there may be some lapses. He/she is also able to switch between phraseology and appropriate plain language when required.

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**Paper 3: PASS+ - Performance clearly exceeding the required standard<sup>2</sup>**

**Overall**

The candidate's production is consistently clear, concise and unambiguous, seldom requiring the interlocutor to make allowances or negotiate meaning

**Comprehension**

The candidate is in touch with the essentials of the interaction and even unusual or complex messages seldom render comprehension slower or require clarification strategies. The report given by the candidate in Phase 2 corresponds in broad outline, essential facts and minor detail to the content of the interaction during Phase 1.

**Interaction**

Responses are immediate, appropriate and informative. The candidate initiates and maintains exchanges even when dealing with an unexpected turn of events. He/she deals effectively with apparent misunderstandings by checking, confirming or clarifying.

**Fluency**

The candidate produces stretches of language at an appropriate tempo. There are few hesitations or apparent slowness in language processing. Formulaic phraseology (e.g. 'stand-by', 'roger', etc.) is used appropriately as the situation requires. The candidate makes appropriate use of discourse markers and connectors.

**Pronunciation**

The candidate's pronunciation, rhythm, stress or intonation may affect accent (i.e. the candidate may sound like a non-native speaker), but this rarely affects intelligibility (i.e. the message is understood).

**Vocabulary**

Vocabulary range and accuracy are sufficient to communicate effectively, and sometimes include idiomatic expressions. The candidate paraphrases consistently and successfully when lacking vocabulary in unusual or unexpected circumstances.

**Grammar structure**

Basic grammatical structures and sentence patterns are used creatively and are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning.

**Phraseology**

The candidate is consistently able to use R/T phraseology accurately and appropriately. The candidate also switches easily between phraseology and appropriate plain language when required.

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<sup>2</sup> A candidate who clearly exceeds these requirements may be awarded a PASS+

## **8. BACKGROUND TO THE PELA TEST**

### **8.1 Need for Harmonisation**

It is generally acknowledged that for a number of reasons - historical, cultural and political - the level of English language among the air traffic controllers of Europe varies greatly. With the requirement for the harmonisation of air traffic services in Europe and with the knowledge that nowhere is communication more critical and misunderstanding potentially so disastrous than in ATC, the need to define a minimum proficiency in English language for ATC is recognised as being of great importance.

### **8.2 Common Standard of English in ATC**

The concept, for a common standard of English among air traffic controllers, was developed at the first English Language workshop held at the EUROCONTROL Institute of Air Navigation Services (IANS), Luxembourg in June 1988. This workshop concluded that controllers should achieve a pre-determined, minimum level of knowledge and skills in the English language - especially listening, pronunciation and comprehension - to enable them to carry out their tasks in such a manner as to contribute positively to the safety of air traffic. This concept has recently been reinforced by the proposed changes to ICAO (2003) Annex 10, whereby the English language shall be available for aeronautical communication in designated international airspace and at designated international airports (ICAO State Letter 31.05 2002 refers).

### **8.3 Start of Project**

In September 1988 EUROCONTROL's Training Working Group (TWG) encouraged IANS to commence work on the development of appropriate tests. In 1990 the Project Supervision Team (PST) was established to monitor and guide test development. Because of its unique experience in English language testing and administration the British Council was contracted, in January 1992, to design a suitable test.

Shortly after this, in February 1992, the project was adopted by EATCHIP<sup>3</sup> as part of the Specialist Task (ST) dealing with the Specification of Training and Institutional Training (ST05 3000) integrated within the Work Programme (V3 0) of the Human Resources Domain. (Today the PELA Project is being developed within the Training Sub-Programme (TSP) of the EATM<sup>3</sup> Human Resources Programme (HRS) under Work Package number HRS/TSP-005.)

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<sup>3</sup> In 1999 the 'European Air Traffic Control Harmonisation and Integration Programme (EATCHIP)' was renamed the 'European Air Traffic Management Programme (EATMP)'. Today it is known as 'European Air Traffic Management (EATM)'.

#### **8.4 Project Supervision**

EUROCONTROL maintained overall responsibility for the project chairing the Project Supervision Team (PST) which comprised eleven States and one airforce (The Czech Republic, Denmark, France, Germany, Hungary, Ireland, The Netherlands, Portugal, Sweden, Switzerland, The United Kingdom and the German Air Force)

The PELA Test has now the potential to reach student air traffic controllers in all 41 ECAC States

#### **8.5 Experienced Test Design Team**

A Test Development Team of experienced English language specialists having an extensive ATC-English background was established in Madrid in January 1992. This team was supported by test design experts from Thames Valley University, London. Two of the item writers were based at the 'Ecole Nationale de l'Aviation Civile (ENAC)', Toulouse, and another at Palma de Mallorca. Teamwork was coordinated by the British Council Field Manager, in Madrid, in close consultation with EUROCONTROL at IANS

Test design commenced in January 1992 and terminated at the end of December 1993.

#### **8.6 Needs Analysis and Test Design**

By means of a questionnaire to EUROCONTROL Member States, the project set out to analyse ATC transmissions in terms of language use and to establish ATC expectations of the test. Authentic R/T recordings were obtained and used by the Test Development Team in Madrid and the item writers in Toulouse to develop materials for the test.

#### **8.7 Test Trialling**

The initial test design was submitted to the PST, in December 1992, to agree detailed test specification and content validation. In February and March 1993 four versions of the test were successfully trialled in nine European States (Czech Republic, Denmark, France, Germany, Hungary, The Netherlands, Spain, Sweden and Switzerland) on 253 student air traffic controllers

The PST met again, in April 1993, to evaluate the trialling exercise, review test design and discuss test administration. A number of PST Members had been actively involved in the trialling.



## **8.8 Statistical Analysis**

During the summer of 1993, statistical analysis of test items was conducted and a sub-set of test items selected for subsequent retrialling. A second trial, in November 1993, led to the selection of final test versions.

## **8.9 Test Validity**

In order to establish its validity, the test was administered to selected groups of native and non-native English speakers, trained and untrained in air traffic control. As expected, significant differences between the performances of the ATC trained and untrained groups were recorded. Within both these groups the native speakers consistently outperformed the non-native speakers.

## **8.10 Test Delivery**

The test and all relevant documentation were handed over to EUROCONTROL at the end of March 1994.

Development and trialling of an en-route version to the Interactive Section, Part 1, were completed in 1998 and added to the test.

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## **9. TEST EVALUATION**

### **9.1 Test Administration**

From March 1995 until December 1996 a system for the administration, security and maintenance of the PELA was evaluated by EUROCONTROL. By the end of 1996 almost three hundred student air traffic controllers from France (127), Ireland (8), The Netherlands (14), Sweden (47), Switzerland (69) and The United Kingdom (28) had taken the test. A further 33 French students completed the PELA Test in February 1997 (EATCHIP, 1997 – T4, refers.)

Training packages for test raters and interlocutors (for the interactive sections) have been developed to support test administration. These packages, together with guidelines for test administrators, are included in the PELA Test package

### **9.2 Test Performance**

Analysis of the evaluation phase of the PELA Test Project (1995-96) indicated that the test responded effectively to its defined language performance requirements and specific test objectives (see Sections 5 and 6). This evaluation of the PELA Test also demonstrated that an adequate knowledge of ATC procedures and experience in the operational (or simulator) environment is essential. It was noted that those students able to practise the test and become familiar with its construction performed better than those with little or no experience of the test format. Apart from some minor editorial amendments suggested to the presentation and layout of the test, it has been well received by the student air traffic controllers.

### **9.3 Test Security**

To maintain the integrity of the test and to guard against abuses of the system, test security will have to be strictly enforced. Because of the potential impact of this test on aviation safety, fair and objective assessment of candidate performance is necessary.

### **9.4 Further Test Development**

After a period of implementation of the PELA Test by States a Working Group of PELA users was established in 2002 to review the existing test and prepare new versions. The group also initiated development of a computer-based application of PELA to the Listening and Oral Responses (originally Interactive 1) papers. This application, still under development and due in

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## FURTHER READING

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## ABBREVIATIONS AND ACRONYMS

For the purposes of this document, the following abbreviations and acronyms shall apply.

ATC	Air Traffic Control
ATM	Air Traffic Management
ATS	Air Traffic Services
DEL	Deliverable ( <i>EATCHIP</i> )
EATCHIP	European Air Traffic Control Harmonisation and Integration Programme ( <i>renamed 'EATMP' in 1999 and today known as 'EATM'</i> )
EATM(P)	European Air Traffic Management (Programme) ( <i>formerly known as 'EATCHIP'</i> )
ECAC	European Civil Aviation Conference
ENAC	Ecole Nationale de l'Aviation Civile ( <i>France</i> )
EPT	EUROCONTROL English language Placement Test ( <i>PHARE</i> )
ET	Executive Task ( <i>EATCHIP</i> )
EUROCONTROL	European Organisation for the Safety of Air Navigation
EWPD	EATCHIP Work Programme Document
GUI	Guideline / Guidance Material ( <i>EATCHIP/EATM(P)</i> )
HRS	Human Resources Programme ( <i>EATM(P)</i> )
HRT	Human Resources Team ( <i>EATCHIP/EATM(P)</i> )
HUM	Human Resources (Domain) ( <i>EATCHIP/EATMP</i> )
IANC	Institute of Air Navigation Services ( <i>EUROCONTROL, Luxembourg</i> )
ICAO	International Civil Aviation Organization
OJT	On-the-Job Training

PELA	Proficiency in English Language for Air Traffic Controllers ( <i>EATCHIP/EATM(P)</i> )
PHARE	Programme for Harmonised ATM Research in EUROCONTROL
PSG	Programme Steering Group ( <i>EATM(P)</i> , <i>HRS</i> )
PST	Project Supervision Team ( <i>EUROCONTROL IANS</i> , <i>TWG</i> )
REP	Report ( <i>EATCHIP/EATM(P)</i> )
R/T	Radiotelephone or radiotelephony
SD	Senior Director, EATM Service Business Unit ( <i>EUROCONTROL Headquarters</i> )
ST	Specialist Task ( <i>EATCHIP</i> )
TDH Unit	Training Development and Harmonisation Unit ( <i>EUROCONTROL IANS</i> )
TFG	Training Focus Group ( <i>EATM</i> , <i>HRT</i> ; <i>formerly known as 'TSG'</i> )
TSG	Training Sub-Group ( <i>EATCHIP/EATMP</i> , <i>HRT</i> , <i>now known as 'TFG'</i> )
TSP	Training Sub-Programme ( <i>EATM(P)</i> , <i>HRS</i> )
TST	Test ( <i>EATCHIP/EATM(P)</i> )
TWG	Training Working Group ( <i>EUROCONTROL IANS</i> )
WP	Work Package ( <i>EATCHIP/EATM(P)</i> )



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## **FURTHER INFORMATION**

The complete PELA Test Package is available to EUROCONTROL and ECAC Member States, subject to the signing of a Licence Agreement

The use of PELA by other States is subject to negotiation.

For further information and details on the PELA Test contact.

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*This project is dedicated to the memory of*

*Paul McCann and Alex Teasdale*

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