



Agenda Item 7A: Innovation:

IMPLEMENTATION OF ELECTRONIC LICENSE – BRAZILIAN EPL SOLUTION

(Presented by ANAC Brazil)

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| <ul style="list-style-type: none"> - This paper addresses the implementation of an electronic version of the License issued to Brazilian civil aviation professionals and the feasibility to spread this kind of solution to all SAM Region Contracting States, granting an optimized use of its resources and a faster way of technical information interchange regarding the licenses issued by each Contracting State, fostering SRVSOP strategic objective of reaching automatic accreditation of licences issued by SAM Region Contracting States. - Action: The Conference is invited to agree on the suggested actions listed of section 3 of this Working Paper: | |
| <p>ICAO Strategic Objectives:</p> | <p><i>A: Safety</i> <i>B: Air navigation capacity and efficiency</i> <i>C: Aviation security and facilitation</i></p> |

1. Introduction

1.1 The Brazilian State, as it happens in most of the contracting States, needed to print all the licenses by it issued. This printing effort can be translated into an inefficient expenditure of AAC financial and human resources. And this inefficient expenditure of resources jeopardizes the performance of other relevant certification and surveillance activities.

1.2 To optimize the PEL licenses issuance procedure, ANAC Brazil PEL Office was invited to study and provide a solution to face the emerging and growing necessity of cutting expenditures related to this routine.

1.3 Some relevant technical aspects that helped in the optimization of the cited process were mapped by PEL Office staff. These aspects can be resumed in two major characteristics: the fact that the Brazilian PEL Office is centralized; and all its licenses issuance procedures are supported by structured databases and systems.

1.4 With this technical scenario, it became natural do develop an electronic version of the Brazilian License.

1.5 The development and implementation of an Electronic Personnel License – EPL by ANAC Brazil started on 2018, when Brazilian EPL first version was launched. Since then, lots of efforts and new features where implemented.

1.6 Nowadays, Brazilian EPL is a robust and Annex 1 compliant solution, provided in an Official Brazilian government electronic wallet solution, with efficient security layers well established.

In addition, this same solution is scalable and can be fitted to any PEL Office structure that is compliant to ICAO *DOC 9379 - Manual of Procedures for Establishment and Management of a State's Personnel Licensing System*.

2. Discussion

2.1 The technical and functional characteristics of Brazilian EPL are here explored.

2.2 However, since any EPL solution **must be seen as an application layer of a whole PEL Office support system**, this paper explores the main issues related to its development and implementation:

2.2.1 Structured Database

2.2.1.1 Since 2012, all the data regarding Brazilian civil aviation professionals medical, language proficiency and technical ratings are structured in a relational database, with its specific data tables. As a result, any information regarding the issuance of a license and/or rating are made available online, in a well established web-based IT solution, from now on called PEL Office Support System.

2.2.1.2 However, the PEL Office Support System is a procedure-based system that focus on each part of an entire PEL process. This approach, besides being one of the possible ones, proved to be efficient but has its difficulties on constructing a complete personnel file.

2.2.1.3 For having a more efficient PEL Office Support System, since 2023 ANAC Brazil is developing and implementing a new PEL System that is focused on the professional and the tracking of he/she evolvement throw the entire PEL process. By this, a personnel file is a natural product, making easier and more efficient the Brazilian EPL solution.

2.2.2 Data verification procedures – ANAC Brazil QR Code

2.2.2.1 Information authentication and correct correlation between the aviation professional and its license information is a relevant question that was addressed.

2.2.2.2 Regarding the correct correlation between the aviation professional and its license information, a unique ANAC Brazill QR Code, related to any binomial (aviation professional x license information), was created.

2.2.2.3 This ANAC Brazil QR Code, as demanded by ICAO in Chicago Convention's Annex 1, is put on the EPL.

2.2.2.4 By reading this ANAC Brazil QR Code, any international inspector will be led to a specific official web page and, by providing the civil aviation professional's ANAC Brazil ID Code – CANAC, Social Security number and date of birth, will have access to a professional technical datasheet, with all the professional's license and ratings info.

2.2.3 Data verification procedures – ICAO QR Code

2.2.3.1 As demanded by ICAO, a specific QR Code is created for grating any international inspector the possibility of personnel license and ratings verification in a secure ICAO IT environment, as established in phase 1 of an ICAO accredited EPL solution.

2.2.3.2 Besides being prepared for ICAO solution, Brazilian EPL is its final implementation for sharing personnel licenses and ratings info with this ICAO IT environment.

2.2.4 **Brazilian EPL in a government official wallet (*gov.br*)**

2.2.4.1 Since Brazilian EPL solution is a full digital solution, it became natural to make this document one of the official documents made available in the Brazilian government document wallet, from now on called *gov.br*.

2.2.4.2 Specific arrangement was made with the Brazilian government IT solution provider to grant the EPL availability on *gov.br*. This arrangement was fostered by the fact that Brazilian EPL, as already cited here, is a full digital solution. In addition, it is focused on technical parameters related to the document lay-out and on how the PEL personnel data is safely sent from ANAC Brazil to *gov.br*.

2.2.4.3 Since all PEL personnel data is refreshed on *gov.br* in a daily basis, it is possible to grant that the Brazilian EPL is always updated on Brazilian official wallet, granting an efficient and trusted way of making this document always updated and with high level of availability.

2.2.4.4 Important to quote that, as an additional safety layer, *gov.br* has specific access policies that includes biometric validation with official electoral and civil identification databases.

2.2.5 **Scalability of Brazilian EPL solution**

2.2.5.1 Since Brazilian EPL solution is a full digital solution, it can be fit to any digital PEL Office Support System that is able to provide personal files, having licenses and ratings updated info.

2.2.5.2 In addition, as Brazilian EPL solution is also compliant with Annex 1 requirements, only lay-out issues must be settled. As an example, Brazilian EPL has the same lay-out as the past printed documents.

2.2.5.3 However, it is important to reinforce that any EPL solution must be seen as an application layer of a hole PEL Office support system and, by this, the biggest State effort must be on having implemented a robust and structured system, based on relational databases that can easily provide a personal license and ratings updated file.

2.2.6 **Scalability of Brazilian new PEL system**

2.2.6.1 As highlighted above, in section 2.2.5.3 of this Working Paper, a robust and efficient PEL Office Support System is key for having an ICAO compliant EPL solution.

2.2.6.2 Also as highlighted above, in section 2.2.1.3 of this Working Paper, a new PEL system is being developed and implemented by ANAC Brazil.

2.2.6.3 Since this new PEL system is based on the procedures established on Annex 1 and ICAO DOC 9379, on robust relational database provided by a relevant worldwide provider and is a web-based solution, it can be used by different States.

2.2.6.4 In addition, it is important to quote that the new PEL system architecture provides an optimal structure and functionality to support Brazilian EPL solution.

3. **Conclusion**

3.1 The implementation of an electronic license version is feasible, possible and represents an important optimization in a state's resource allocation.

3.2 It also turns possible an electronic interoperability of technical data and instant verification of ratings (technical, medical and language proficiency) in a Ramp Inspection, even in an international flight.

3.3 In addition, Brazilian EPL solution is a result of various developments since 2018 and can be nearly integrated to ICAO IT environment, granting full compliance with EPL Phase 1 implementation established in ICAO Annex 1.

3.4 Also, solution like Brazilian EPL, supported by a robust PEL Support System, strongly fosters the achievement of the SRVSOP strategic goal of having automatic license and ratings accreditation among SAM Contracting States.

3.5 Brazilian EPL solution and new PEL System can be made available and fitted to SAM Contracting States PEL Offices, granting a standardized and integrated Regional PEL System, including EPL solution.

4. **Suggested action**

4.1 The Meeting is invited to:

- a) Take note from this Working Paper.
- b) Demand SRVSOP feasibility studies for the implementation of:
 - A PEL Support System standardized, integrated and scalable solution for the SAM Contracting States.
 - A standardized and scalable solution for a regional EPL solution.
- c) Consider Brazilian experience and developed solutions to support the feasibility studies proposed and to support the implementation of such solutions.

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