



**Thirty Seventh Regional Aviation Safety Group — Pan America Executive Steering Committee Meeting (ESC/37)**

Mexico City, Mexico, 25 to 26 May 2022

**Agenda Item 2: Safety management process within RASG-PA**

**Project for the improvement of Language Proficiency in the LATAM Air Traffic Services**  
(Presented by the Secretariat)

**EXECUTIVE SUMMARY**

Language proficiency in aeronautical communication has been identified as a critical area that could affect aviation safety worldwide. States worldwide have been developing strategies and programs to improve language proficiency in aeronautical communication.

In the Latin American region, States and providers have developed programs to improve proficiency in the English language. However, despite the efforts, there is still a significant gap in compliance with Annex 1 requirements, which could represent a threat to aviation.

Under the RASG PA sponsorship, this project aims to implement an efficient and sustainable strategy to improve the language proficiency in the air traffic services of the Latin American Region.

<b>Action:</b>	Detailed in paragraph 3.1 below
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> <li>• Safety</li> </ul>
<i>References:</i>	<ul style="list-style-type: none"> <li>• Annex 1</li> <li>• Doc 9835</li> <li>• Assembly Resolution A32-16</li> </ul>

**1. Introduction**

1.1 Since 1995, language proficiency in aeronautical communication has been identified as a critical area that could affect aviation safety worldwide. The ICAO Assembly took note of several accidents and incidents where the language proficiency of pilots and air traffic controllers were causal or contributory factors and formulated Assembly Resolution A32-16 in which the ICAO Council was urged to direct the Air Navigation Commission to consider, with a high level of priority, the matter of English language proficiency and to complete the task of strengthening the relevant provisions of Annexes 1 and 10, to obligate the Contracting States to take steps to ensure that air traffic control personnel and flight crews involved in flight operations in airspace where the use of the English language is required were proficient in conducting and comprehending radiotelephony communications in the English language.

1.2 Subsequently, the Air Navigation Commission established the Proficiency Requirements in Common English Study Group (PRICESG) to assist the Secretariat in carrying out a comprehensive review of the existing provisions concerning all aspects of air-ground and ground-ground voice communications. In March 2003, the Council adopted amendments to Annexes 1, 6, 10, 11, and the PANS-ATM relating to language proficiency in international civil aviation. In 2004, the first edition of the Manual on the Implementation of ICAO Language Proficiency Requirements was published to support State's efforts to comply with the strengthened provisions for language proficiency.

1.3 Since 2005, States worldwide have been developing strategies to improve language proficiency in aeronautical communication; likewise, in the Latin American Region, States have developed programs to enhance proficiency in the English language, but despite the efforts made, there is still a critical Annex 1 compliance GAP.

## 2. Discussion

2.1 Considering that language proficiency has been identified as a root cause of communication errors, particularly in operational environments with native and non-native speakers (pilots and air traffic controllers), this situation could represent a high risk for aviation.

2.2 In the Latin American region, there have been many safety events where the failure in the communication between crews and air traffic controllers because of the lack of language proficiency has been a cause. In 1995, in the American Airlines accident in Colombia, the investigation cited the lack of language proficiency as a possible cause. In 2018, in a loss of separation between a Lufthansa and an AVIANCA in the Colombian airspace, language proficiency was also involved. Besides those events, many others have happened during the last years and could arise if the airspace gets crowded.

2.3 Regarding compliance with Annex 1 SARPS, ICAO SAM has identified that some South American States have an essential gap in the observance of language proficiency licensing requirements. Paradoxically, the States with the lowest language proficiency compliance (highest number of air traffic controllers below ICAO Level 4) have the highest traffic volume growth rate in the region, including international departures. (See Table I, and Graph I).

2.4 Experience has shown that in airports and FIRs with high traffic volumes, the speech rate of aeronautical communication increases as the traffic grows. In the SAM region, we identified many airports and FIRs with a volume of traffic that increases every year. In those States and FIRs, the risk of communications errors will increase proportionally as the traffic volume grows.

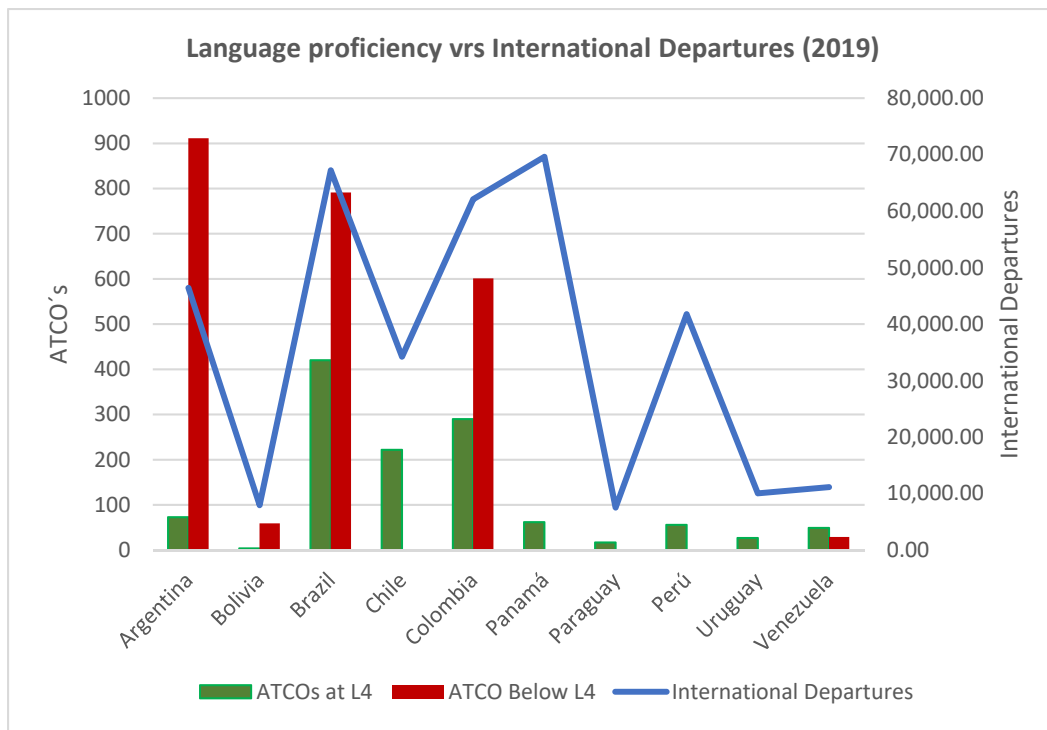
2.5 It is important to consider that the experience in language programs has shown that an air traffic controller not immersed in an English-language environment and who does not participate in a regular English language program may lose proficiency. Without a systemic approach to improving language proficiency in the air traffic services, the air traffic controllers could lose their skills.

2.6 In the South America region, the licensing data shows that four States are between 57% and 89% of language proficiency requirements **non-compliance**. The risk for communication

errors in those States is high, and could increase if the volume of operation increase and the proficiency of ATCO is diminished.

States	ATCOs at L4	% ATCOs at L4	ATCO Below L4	% ATCO Below L4
Argentina	73	7.14%	911	89.19%
Bolivia	4	4.71%	59	69.41%
Brazil	420	30.39%	791	57.24%
Chile	222	43.79%	0	0
Colombia	290	31.32%	601	64.90%
Panamá	62	31.63%	0	24.49%
Paraguay	17	41.46%	0	0
Peru	56	30.11%	2	1.08%
Uruguay	27	28.72%	0	14.89%
Venezuela	49	22.90%	29	13.55%

Table I  
 \* Data based on CAA Licensing departments



Graph I

2.7 Besides States and ATSP, many organizations, such as IFATCA, CANSO, and Embry Riddle, have developed initiatives to improve language proficiency in air traffic services. However, although those initiatives have helped improve language proficiency, a significant gap still needs to be addressed.

2.8 This proposed project aims to develop a collaborative initiative with all stakeholders to implement a holistic approach to improving language proficiency in aeronautical communication in the LATAM region, supporting States and ATSPs to develop in-house capabilities to keep improving language proficiency over time. The project includes three stages:

- **Phase I:** The initial stage, which includes data validation.
- **Phase II:** A development stage that includes implementing actions to address language proficiency issues in air traffic services, including training ATCO’s language instructors, training in the implementation of a language program, and a communication campaign about the importance of language proficiency.
- **Phase III:** Development of an APP, and closing of the Project

### 3. Suggested Actions

3.1. The Meeting is invited to:

- a) Take note of the information provided in this working paper,
- b) review the Project Charter presented in the appendix to this working paper, and
- c) endorse the proposed conclusion

CONCLUSION RASG-PA ESC/OM/XX		<i>Project for the improvement of Language Proficiency in the LATAM Air Traffic Services</i>	
<b>What:</b>		<b>Expected impact:</b>	
<ul style="list-style-type: none"> <li>• Endorse the Implementation of the Project for the improvement of Language Proficiency in the LATAM Air Traffic Services as per appendix on ESC37/WP/09 and approve requested funds for the project</li> </ul>		<input type="checkbox"/> Political/Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Operational/Tech.	
<p><b>How much:</b></p> <ul style="list-style-type: none"> <li>• Phase 1 Users Survey Data Validation - \$ 1000</li> <li>• Phase 2 ATS Aviation English for Instructor Training Course/ATCOs Awareness Strategy - \$ 21,000</li> <li>• Phase 3 APP Implementation - \$ 3000</li> <li>• <b>Total \$ 25,000.</b></li> </ul>			
<b>Why:</b> To develop a collaborative initiative with all stakeholders to implement a holistic approach to improve language proficiency in aeronautical communication in the LATAM region.			
<b>When:</b> ESC/37		<b>Status:</b> Valid	
<b>Who:</b>		<i>Responsible: ICAO Secretariat</i>	
<input checked="" type="checkbox"/> States <input type="checkbox"/> PA-RAST Co-chairs <input checked="" type="checkbox"/> ICAO SAM Office (Secretariat) <input type="checkbox"/> Other (Specify)			

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APPENDIX to WP09 – ESC37



International Civil Aviation Organization  
Regional Aviation Safety Group - Pan America (RASG-PA)

<b>Project Name:</b>	Project for the improvement of Language Proficiency in the LATAM Air Traffic Services		
<b>Date:</b>	02/05/2022	<b>Area of interest:</b> MAC	Version: 1.5
<b>Author:</b>	ICAO SAM RO		
<b>Project Sponsor:</b>	RASG-PA Plenary		
<b>Senior User:</b>	RASG-PA ESC		
<b>Client:</b>	Latin American Region		
<b>Document ID:</b>	MAC-22-001 <i>(Priority area+Subject+Year+Ref #)</i>		
<b>Document link:</b>			

Note: This document is only valid on the day it was printed

1. Executive Summary

- a. Since 1995, language proficiency in aeronautical communication has been identified as a critical area that could affect aviation safety worldwide. The ICAO Assembly took note of several accidents and incidents where the language proficiency of pilots and air traffic controllers were causal or contributory factors and formulated Assembly Resolution A32-16 in which the ICAO Council was urged to direct the Air Navigation Commission to consider, with a high level of priority, the matter of English language proficiency and to complete the task of strengthening the relevant provisions of Annexes 1 and 10, with a view to obligating the Contracting States to take steps to ensure that air traffic control personnel and flight crews involved in flight operations in airspace where the use of the English language is required were proficient in conducting and comprehending radiotelephony communications in the English language.
- b. Subsequently, the Air Navigation Commission established the Proficiency Requirements in Common English Study Group (PRICESG) to assist the Secretariat in carrying out a comprehensive review of the existing provisions concerning all aspects of air-ground and ground-ground voice communications and to develop new provisions as necessary. In March 2003, the Council adopted amendments to Annexes 1, 6, 10, 11, and the PANS-ATM relating to language proficiency in international civil aviation. In 2004, the first edition of the Manual on the Implementation of ICAO Language Proficiency Requirements was published to support State's efforts to comply with the strengthened provisions for language proficiency. It compiles comprehensive information on aspects related to language proficiency training and testing.



## APPENDIX to WP09 – ESC37

### Project Charter

Project Name: Project for the improvement of Language Proficiency in the LATAM Air Traffic Services

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- c. Since 2005, States around the world have been developing strategies and programs to improve language proficiency in aeronautical communication; likewise, in the Latin American Region, States have developed programs to improve proficiency in the English language, but despite the efforts made, there is still an important Annex 1 compliance GAP.
- d. Under the RASG PA sponsorship, this Project aims to implement an efficient and sustainable strategy to improve the language proficiency in the air traffic services of the Latin American region with the highest communication errors risk as part of the misused of language.

### 2. Problem / Opportunity Statement

- a) Considering that language proficiency has been identified as a root cause of communication errors, particularly in operational environments with native and non-native speakers (pilots and air traffic controllers), this situation could represent a high risk for aviation.
- b) In the Latin American region, there have been many safety events where the failure in the communication between crews and air traffic controllers because of the lack of language proficiency has been a cause. In 1995, in the American Airlines accident in Colombia, the investigator team cited the lack of language proficiency as a possible cause. In 2018, in a loss of separation between a Lufthansa and an AVIANCA in the Colombian airspace, language proficiency was also involved. Besides those events, many others have happened during the last years and could arise if the airspace gets crowded.
- c) Regarding compliance with Annex 1 SAPRs, ICAO SAM has identified that some South American States have an essential gap in the observance of language proficiency licensing requirements. Paradoxically, the States with the lowest language proficiency compliance (highest number of air traffic controllers below ICAO Level 4) have the highest traffic volume growth rate in the region, including international departures. (See Table I and Graph I).
- d) Experience has shown that in airports and FIRs with high traffic volumes, the speech rate of aeronautical communication increases as traffic grows. In the LATAM region, we identified many airports and FIRs with an essential volume of traffic that increases every year. In those States and FIRs, the risk of communications errors will increase proportionally as the traffic volume grows.
- e) During the development of aviation language programs, the experience has shown that an air traffic controller who is not immersed in an English-language environment and does not take part in a regular English language program may lose proficiency over time, so without a program to improve language proficiency in the air traffic services, the air traffic controllers could lose their skills and the compliance gap could increase.
- f) The licensing data shows that four States in the SAM region are between 57% and 89% of language proficiency requirements **non-compliance**. The risk for communication errors in those States is high and could increase if the volume of operation increases and the proficiency of ATC decreases.



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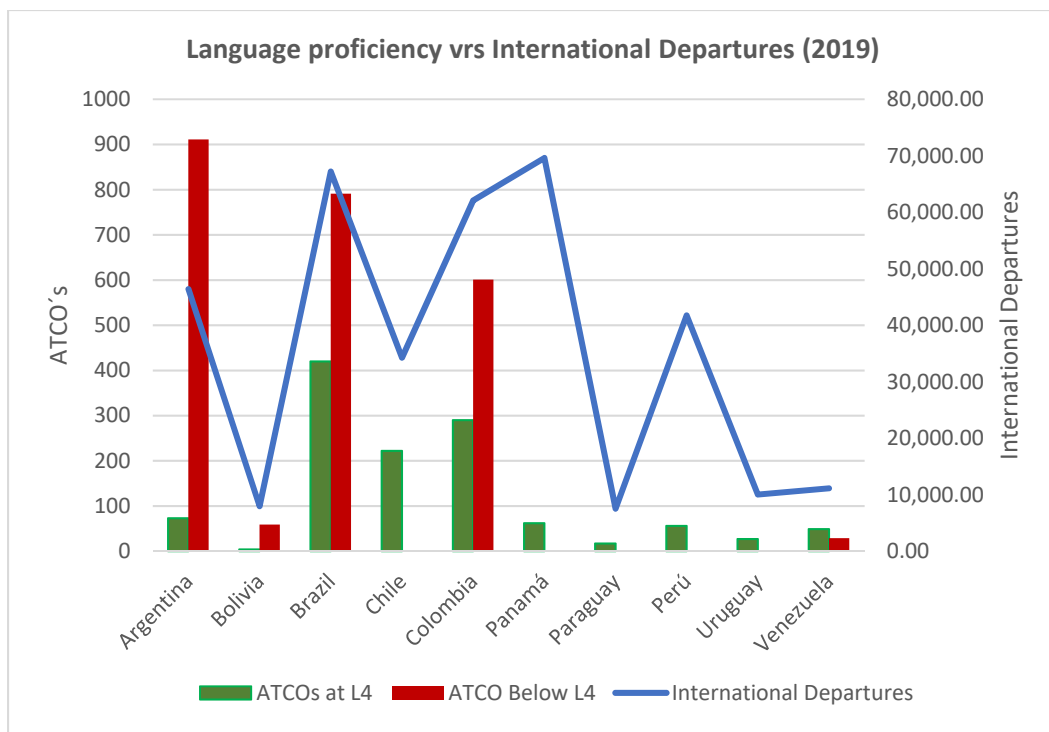
Project Charter

Project Name: Project for the improvement of Language Proficiency in the LATAM Air Traffic Services

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Table I

\* Data based on CAA Licensing departments



Graph I

g) Aside from states and air traffic service providers, many organizations, such as IFATCA, CANSO, and Embry Riddle, have developed initiatives to improve language proficiency in air traffic services. However, although those initiatives have helped improve language proficiency, there is still a significant gap that needs to be addressed.



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### Project Charter

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- h) This Project aims to develop a collaborative initiative with all stakeholders to implement a holistic approach to improving language proficiency in aeronautical communication in the LATAM region, supporting States and air traffic service providers to develop in-house capabilities to keep improving language proficiency over the years. The Project includes three stages:
- **Phase I:** The initial stage, which includes data validation.
  - **Phase II:** A development stage that includes implementing actions to address language proficiency issues in air traffic services, including training ATCO's language instructors, training in the implementation of a language program, and a communication campaign aimed to ATCO's about the importance of language proficiency.
  - **Phase III:** Development of an APP and closing of the Project
- i) The Project will be developed using the PRINCE 2 methodology, taking in consideration the Business Justification Principle. Each project phase will start after the previous phase has been completed, and there is still enough business justification for the new phase.
- j) With the use of PRINCE 2 project management methodology, the Project will have more efficient use of the resources.

### 3. Expected Benefits

*The Project's benefits will deliver expressed in measurable terms against the situation as it existed prior to the Project.*

#### Main Benefits:

- **Main Outputs:**
  - To instruct language proficiency instructors from the LATAM air traffic services to support the development of efficient language proficiency improvement programs.
  - To raise the awareness of air traffic controllers and Authorities about the importance of improving language proficiency and its impact on aviation safety.
  - To implement a collaborative effort with the participation of the different stakeholders to improve language proficiency in aviation.

#### Main Outcomes:

- Reduction of aeronautical communication errors in the LATAM region.
- Safety level improvement because of the reduction of safety events related to communication errors.
- Improvement of Annex 1 ICAO requirements compliance, with a direct impact on safety.
- Improvement of the air traffic services quality with the reduction of aviation communications errors.
- Increase the collaboration of different stakeholders to improve language proficiency in aviation communications.



Project Charter

Project Name: Project for the improvement of Language Proficiency in the LATAM Air Traffic Services

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**Main Benefits:**

- The support of RASGPA addressing aviation safety concerns in the South American region.
- The improvement of safety in the LATAM region.
- Developing a proactive and collaborative approach to address safety concerns before they become a significant safety issue.

#### 4. Expected Detriments

*Outcomes are perceived as negative by one or more stakeholders. Dis-benefits are actual consequences of an activity, whereas, by definition, a risk has some uncertainty about whether it will materialize.*

Although there are no major dis-benefits identified with the Project, there are two situations to consider:

- The resources for the development of the Project could be used to address other safety concerns in the region.
- The time for the development and management of the Project could be used to develop another task.

#### 5. Project Objectives

*Objectives are statements that specifically describe what is to be achieved within the Project's mandate in order to meet the overall project goal. Wherever possible, objectives should be quantified and "SMART" (Specific, Measurable, Achievable, Realistic, and Time-Based).*

The project's objective is to develop a collaborative strategy to improve project language proficiency in the air traffic controllers of the LATAM FIRs, identified with high risk due to lack of language proficiency, supporting States and ATSPs developing their own capabilities to keep improving language proficiency in the long term.

#### 6. Scope Statement / Project deliverables

*Defines what is being produced. Deliverables relate to and satisfy the specific project requirements or capabilities. Deliverables must cross-reference and satisfy the Project's objectives.*

**Scope Statement:**

The scope of this Project is to develop, based on a risk approach, a collaborative initiative to implement a holistic approach to improve the language proficiency in aeronautical communication in the region, supporting States and air traffic service providers to develop in-house capabilities to keep improving language proficiency over the years. The Project includes three stages:



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### Project Charter

Project Name: Project for the improvement of Language Proficiency in the LATAM Air Traffic Services

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- **Phase I:** The initial stage includes data validation – State risk profile.
- **Phase II:** A development stage that includes implementing actions to address language proficiency issues in air traffic services, including training ATCO's language instructors, training in the implementation of the language program, and a communication campaign aimed to address ATCO's about the importance of language proficiency.
- **Phase III:** Development of an APP, and closing of the Project

*\*Note: other deliverables may be agreed upon after first project iterations and RASG-PA needs.*

### 7. Critical Success Factors

*Defines what is needed as necessary conditions for project success.*

- Continuous, high-level engagement and commitment from the different Stakeholders (RASG-PA ESC, State support -DG level, ANSP support, Industry, etc.)
- Commitment by State, ATSP, and personnel involved (ATCOs)
- RASG-PA support (data, funding)
- State and International organizations support SMEs. Selection of SMEs

### 8. Budget / Costs / Funding

*Source and funding amount (whether annual or in total) not be exceeded.*

The Project for the Improvement of Language proficiency in the LATAM Region includes many activities that will require resources for the implementation. The total estimated investment for the Project is US\$ 25,000

Stage	Activity	Duration
Phase 1	Users Survey Data Validation Results	\$ 1000
Phase 2	ATS Language Training Course Aviation English for Instructor Training Course ATCOs Awareness Strategy	\$ 21,000
Phase 3	APP Implementation Project Closing	\$ 3000
<b>Total</b>		<b>\$ 25,000</b>

The Project will be developed using the PRINCE 2 methodology, taking in consideration the Business Justification Principle, each project phase will start after the previous phase has been completed, and there is still enough business justification for the new phase.

With the use of PRINCE 2 project management methodology, the Project will have more efficient use of the resources.



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### 9. Stakeholder / Communications Plan

*Identifies the key individuals or organizations with a clear stake in the Project's success. Who is impacted by the Project, and how should they be involved?*

- CANSO
- Civil Aviation Authorities
- ANSPs
- IFACTA
- Embry Riddle
- Industry
- ICAO

### 10. High-Level Milestone/Stages Schedule

*Identification of the major project phases and when they will be completed*

The Project is planned to be developed in eighteen months. The implementation will be divided in three main phases; each one will include many tasks to achieve the goals of each phase:

- Phase I: The initial stage, which includes data validation.
- Phase II: A development stage that includes the implementation of actions to address language proficiency issues in air traffic services.
- Phase III: Closing of the Project

Draft timescale:

Stage	Activity	Duration
Phase 1	Users Survey Data Validation Results	Three months
Phase 2	ATS Language Training Course Aviation Training Course ATCOs Awareness Strategy	Twelve Months
Phase 3	APP Implementation Project Closing	Six Month

### 11. Acceptance Criteria

*Identify the quality standards and criteria that apply to the Project. Explain how the plan will ensure adherence to these standards and criteria.*

TBD

### 12. Risk Management Plan

*List of major risks confronting the Project. Assessment of severity (H/M/L, or high, medium or low) as determined by (1) probability, and (2) potential impact. For each High risk item, develop appropriate mitigation plans.*



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The identified risks for the Project are the following:

<b>ID</b>	<b>Description</b>	<b>Probability</b>	<b>Impact</b>	<b>Pxl*</b>	<b>Mitigation</b>	<b>Status</b>
1	States experts do not participate in the training courses	2	3	6	<ul style="list-style-type: none"> <li>To address States to promote the program and its benefits.</li> <li>To develop a robust communication plan as part of the Project</li> </ul>	Identified
2	Lack of experts for the development of the training courses	1	3	3	N/A	Identified
3	Do not comply with the project plan activities dates	1	3	3	N/A	Identified

*Risk log notes:*

*Probability/severity scored: 1 (low) 2 (medium) 3 (high)*

*Specific actions must be identified where Pxl (=Probability x Impact) > 3*

*Status: Identified / Accepted / Transferred / Avoided or Exploited / Reduced or Enhanced / Shared / Contingency Plan invoked*

### 13. Project Team Organization

*Who will be involved in managing the Project, and how will they interface?*

TBD

### 14. Project Control Procedures

*Anticipated processes for monitoring and ensuring work progress, including Status reporting and frequency, Review meetings (including who and when), Tracking methods, and tools*

- Monthly review meetings
  - Monthly reports
  - WP on RASG-PA ESC and Plenary meetings
  - Website and email exchange (dashboards, etc.)
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