INTERNATIONAL CIVIL AVIATION ORGANIZATION

**REGIONAL AVIATION SAFETY GROUP – PAN AMERICA
(RASG-PA)**

FOURTEENTH PAN AMERICA –

REGIONAL AVIATION SAFETY TEAM MEETING

PA-RAST/14

SUMMARY OF DISCUSSIONS

Lima, Peru, 25 and 26 September 2013

Presented by the Secretariat   October 2013

SUMMARY OF DISCUSSIONS

Date: 25-26 September 2013

Location: ICAO SAM Regional Office, Lima, Peru

**Discussion
Items:**

Agenda Item 1:   **Opening of the Meeting**

1.1   The Meeting was attended by 10 participants from United States, Airbus, ALTA, Boeing, Embraer, IATA, IFALPA and ICAO. See **Appendix A**.

1.2   Mr. Onofrio Smarelli, Communications, Navigation and Surveillance Officer, ICAO SAM Regional Office, as host of the meeting, and Mr. Eduardo Chacin, Flight Safety Officer, ICAO NACC Regional Office, representing the RASG-PA Secretariat, welcomed the participants to the meeting.

1.3   Mr. Eduardo Chacin served as Secretary of the meeting and was assisted by Mr. Julio Garriga, Regional Officer, Technical Cooperation Bureau, ICAO NACC Regional Office. Mr. Oscar Quesada, Deputy Director, Ms. Lia Ricalde, Aerodromes and Ground Aids Officer and Ms. Veronica Chavez, Technical Cooperation Regional Officer, attended the Meeting representing the ICAO SAM Regional Office.

1.4   The revised draft Agenda was approved as presented with the following variations:

- ALTA requested to present Agenda item 13.1 on 25 September 2013, via video conference due to schedule conflicts; and
- Boeing requested to show the risk analysis methodology prior to discussions on the Detailed Implementation Plan (DIP) agenda items.

Agenda Item 2:   **Elections – PA-RAST Co-chairpersons: representing States/Territories and International Organizations/Industry**

2.1   Considering that that neither Brazil nor Mexico attended the meeting, the election for Co-chairperson representing States/Territories was deferred to the PA-RAST/15 Meeting.

2.2   The Meeting unanimously approved the IATA representative, Mr. Gabriel Acosta, as the new Co-chairperson representing International organizations/Industry, replacing the Boeing representative, Mr. Gerardo Hueto, who stepped due to his recent election as the RASG-PA/ESC Co-chairperson representing International Organizations/Industry at the 6th RASG-PA Annual Plenary Meeting (RASG-PA/06). Mr. David Zwegers from Airbus was elected as the Vice co-chairperson for International Organizations/Industry.

2.3   In the absence of the representatives from Brazil and Mexico, Mr. Warren Randolph, United States, kindly assumed the role of PA-RAST Co-chairperson, representing States/Territories, jointly chairing the meeting.

2.4   In order to facilitate the consultation about Terms of References (TORs) of the various RASG-PA Teams and other relevant documents and templates for RASG-PA operations, the Secretariat offered to compile them in a revised and comprehensive version of the RASG-PA Procedural Handbook.

Agenda Item 3:   Review of Recommended Actions from the PA-RAST/13 Meeting

3.1   The Secretariat briefed the Meeting that the recommended actions presented in the PA-RAST/13 Summary of Discussions were reviewed by the RASG-PA Executive Steering Committee (ESC/17) and presented to the RASG-PA/06 as follows:

- Approve ACI-LAC document: "*High Level Guide to Maintaining Runways in Accordance with ICAO Annex 14*"
- Note the status of Mexico's participation in the PA-RAST
- Approve new PA-RAST State/Territories Co-chairperson (Brazil)
- Acknowledge the outcomes of IAT/03 Meeting
- Discuss RASG-PA Safety Targets
- Approve the tentative schedule for 2014 PA-RAST and IAT Meetings

Agenda Item 4:   Information Analysis Team (IAT/04) Meeting Report

4.1   The IAT/04 met the day before the PA-RAST/14 meeting. The Summary of Discussions is attached at **Appendix B**.

4.2   The Boeing representative, as Rapporteur of the IAT, presented the outcomes of IAT/4 Meeting as follows:

- The action items from IAT/3 Meeting were reviewed
- The IAT/4 Meeting Report to PA-RAST/14 was revised during the meeting which consisted of a presentation with data from ASIAS and FDX
- The data prepared and presented for the Meeting covered ALAR, TCAW, TCAS and airport ranking in the CAR/SAM Regions.
- The IAT Rapporteur presented Aviation Safety Information Analysis and Sharing (ASIAS) system data and IATA presented Flight Data Exchange (FDX) data.

4.2   The PA-RAST suggested adding data labels to the charts to enhance the IAT presentation.

4.3   The United States representative reminded the RASG-PA Secretariat, to verify all the appropriate non-disclosure agreements for ASIAS data have been properly signed by RASG-PA members attending the meeting. The Secretariat ensured that the new meeting participants complied with the Rules of Participation as agreed.

Agenda Item 5: **Runway Excursion (RE) Detailed Implementation Plan (DIP) Reports**

        5.1   **RE/08 - Guidance for Maintaining Runways in Accordance with ICAO Annex 14**

5.1.1 Considering that ACI-LAC was not present at the meeting this agenda item was deferred until the PA-RAST/15 Meeting.

5.1.2 The Meeting agreed that as an action item, the Secretariat will contact ACI-LAC in order to obtain an update on the pending outcomes of this DIP.

        5.2   **RE/09 - Specific Training for Pilots and Air Traffic Controllers to Avoid Unstabilized Approaches**

5.2.1 ALTA presented the Meeting the first part of the training video associated with this DIP for feedback. The other two parts of the video are in production phase. The video is still in draft format. English and Portuguese subtitles will be added to the video. It was suggested to develop training materials/talking points to accompany the training video. Some phraseology requires correction prior to formal release.

5.2.2 The Meeting agreed that the PA-RAST provide ALTA with comments on the training video. ALTA will send a link to the video, available via YouTube, by 2 October 2013. Comments should be sent directly to Mr. Santiago Saltos (ALTA) by 9 October 2013.

Agenda Item 6: **Development of Controlled Flight Into Terrain (CFIT) Detailed Implementation Plan (DIP)**

        6.1   See Agenda Item 7.

Agenda Item 7: **Development of Loss Of Control-Inflight (LOC-I) Detailed Implementation Plan (DIP)**

        7.1   After a discussion regarding development of new DIPs, the Meeting recommended the formation of Safety Enhancement Teams (SETs) for the four focus areas: LOC-I, CFIT, RE, and MAC. Each SET will include States/Territories and International Organizations/Industry. The team leader (former champion) will be responsible for coordinating the team meetings and report out at PA-RAST meetings.

        7.2   The proposal by the meeting is for States/Territories and International Organizations/Industry to lead the SETs in partnership; anyone can participate on any SET to develop the DIP.

7.3   The initial participants for the newly formed SETs are the following:

- **SET 1** (LOC-I): comprised of the United States, Boeing and IFALPA; additional State participation is requested.
- **SET 2** (CFIT): comprised of Airbus and IATA; State participation is requested.
- **SET 3** (RE): comprised of ICAO-SAM, Boeing and Embraer; State participation is requested.
- **SET 4** (MAC): comprised of ICAO-NACC and ALTA; State participation is requested.

7.4   The Meeting agreed that in order to properly develop the DIPs, SETs 1 and 2 (see list in 7.3) will focus on LOC-I and CFIT development respectively. SETs 3 and 4 will focus on RE and MAC, respectively, and will convene once the LOC-I and CFIT DIPs are defined.

7.5   The Meeting agreed that all SETs will follow a similar process for developing DIPs. Therefore, the SETs should focus on the following tasks:

1. Review and analysis of accident risk
2. Review of applicable safety enhancements
3. Start preparing DIPs
4. Review DIPs with PA-RAST
5. Present DIPs to ESC for information
6. Coordinate DIP Implementation at PA-RAST
7. Monitor progress

7.6   The Secretariat presented the process that has been followed by the PA-RAST for developing DIPs in the past, (**see Appendix C).** A procedural guide for the SETs will be reviewed at the PA-RAST/15 presented by Boeing.

7.7   The Secretariat also presented the updated DIPs table, (see **Appendix D**).

7.8   The accident risks for LOC-I and CFIT were presented by Boeing and reviewed by the Meeting.

Agenda Item 8:   Development of a Safety Enhancement Initiative (SEI) for near Mid Air Collisions (MACs)

8.1   See Agenda Item 7.

Agenda Item 9:   Development of RASG-PA Safety Targets

9.1   Boeing presented information on Assessing Gaps in the RASG-PA Safety Portfolio. The Commercial Aviation Safety Team (CAST) goal is to reduce the U.S. commercial aviation fatality risk by at least 50% from 2010 to 2025, and RASG-PA could adopt a similar numeric goal.

9.2   The accidents presented Boeing is based on 59 Part 121 equivalent aircraft accidents in Latin America and Caribbean. The risk reduction value for the DIPs is based on a numerical formula f (effectiveness, implementation). The tool can produce bar charts that predict the portions of eliminated events and fatalities if DIPs are 100% implemented.

9.3   After discussion, the Meeting proposed that the ESC adopt the following RASG-PA risk reduction goal:

- Using 2010 as a baseline, reduce fatality risk of Part 121 equivalent operations by 50% by the year 2020 in Latin America and the Caribbean.

9.4   If the risk reduction proposal is adopted by the ESC, the accident set should be updated each year after the RASG-PA Annual Safety Report (ASR) is available.

9.5   The ICAO SAM representative mentioned that a South American Regional Meeting will be held in Bogotá, Colombia, in December 2013. Participants will include Civil Aviation Directors from the SAM Region. As the outcome of the meeting, it is expected that all the participants commit to sign the "Bogota Declaration."   ICAO SAM representative requested assistance from Boeing in preparing data for a presentation at the event. The RASG-PA Membership is invited to attend the above-mentioned meeting.

Agenda Item 10:   Review of Plan of Activities for 2014

10.1 The Meeting agreed to have an IAT Meeting before each PA-RAST, and selected the dates and locations for 2014 PA-RAST and IAT Meetings as follows:

- IAT/5 and PA-RAST/15
  - 22/23/24 January at Embraer Facility, Ft. Lauderdale, United States
- IAT/6 and PA-RAST/16
  - 26/27/28 March together with IFALPA 69th Annual Conference, Panama City, Panama
- IAT/7 and PA-RAST/17
  - 10/11/12 June at ICAO Regional Office, Mexico; or ICAO SAM Regional Office, Lima, Peru
- IAT/8 and PA-RAST/18
  - 11/12/13 November at Rio de Janeiro, Brazil

10.2 IFALPA will advise the RASG-PA Secretariat on the possibility of sponsoring the IAT/06 and PA-RAST/16 Meetings in concurrence with their 69th Annual Conference to be held in Panama City, Panama. PA-RAST members would have the opportunity of participating in IFALPA activities.

10.3 The Meeting also acknowledged the possibility of delivering RASG-PA seminars/workshops in association with the IAT and PA-RAST meetings, considering the specialists in attendance that may be able to participate in Aviation Safety Training

Team (ASTT) activity.

Agenda Item 11: **RASG-PA Strategic Plan for Communication 2014-2016**

11.1 Due to the absence of Brazil, this issue was not discussed.

11.2 The Meeting recommended as an action item, that ICAO-SAM arrange a teleconference to review and provide comments on the draft Strategic Plan for Communication. Brazil should distribute the Plan to PA-RAST prior to teleconference.

Agenda Item 12: **Recommended Actions for the RASG-PA Executive Steering Committee Meeting (RASG-PA/ESC/18)**

12.1 The ESC is invited to note the following actions to be accomplished by the PA-RAST members:

Item #	Description	Action Owner	Disposition	Closure Date
1	PA-RAST/15 Agenda shall include the Election – PA-RAST Co-chairperson: representing States/Territories PA-RAST/14, Agenda Item 2	Eduardo Chacin / ICAO NACC		
2	The Terms of Reference for IAT, PA-RAST and ASTT shall be located in the RASG-PA Procedural Handbook. PA-RAST/14, Agenda Item 2	Eduardo Chacin / ICAO NACC		
3	Provide IAT/4 Action Items to action item owners and ICAO for distribution. PA-RAST/14, Agenda Item 4	Rebecca Good / Boeing	IAT/4 Action Items distributed by email 25 Sept. 2013	
4	Contact ACI-LAC in order to obtain an update on the pending outcomes of this DIP. PA-RAST/14, Agenda Item 5.1	Eduardo Chacin / ICAO NACC		
5	Provide ALTA withcomments on the training video. ALTA shall send a link to the video available via YouTube by 2 October 2013. Comments shall be sent directly to Santiago Saltos by 9 October 2013. PA-RAST/14, Agenda Item 5.1	PA-RAST		
6	PA-RAST/15 and subsequent PA-	Eduardo		

	RAST meeting agendas shall include the following recurring agenda item: Summary of DIPs under development by other ICAO RASGs. PA-RAST/14, Agenda Item 7	Chacin / ICAO NACC		
7	Create an appendix to the RASG-PA Procedural Handbook that documents methodology and process for Safety Enhancement Teams (SET) PA-RAST/14, Agenda Item 7	Gerardo Hueto / Boeing		
8	Notify States of the Safety Enhancement Teams (SETs) and request State participation. PA-RAST/14, Agenda Item 7	Julio Garriga / ICAO NACC		
9	Provide SET 1 (LOC-I) a copy of the draft IATA Toolkit. PA-RAST/14, Agenda Item 7	Gabriel Acosta / IATA		
10	PA-RAST/15 Agenda shall include the following agenda item: DIP Implementation for non-IATA/ALTA members PA-RAST/14, Agenda Item 7	Eduardo Chacin / ICAO NACC		
11	IAT/5 and subsequent IAT Meeting agendas shall include the following recurring agenda item: Review of accident set data range to determine if the accident set should be expanded to include new incidents/accidents. PA-RAST/14, Agenda Item 9	Eduardo Chacin / ICAO NACC		
12	Compile accident set and suggest risk reduction targets for 14 South American States by 30 September 2013. The accident set and suggested risk reduction targets will be reviewed prior to presentation to the Directors at the Bogotá Declaration. PA-RAST/14, Agenda Item 9	Robert Noges / Boeing Oscar Quesada / ICAO SAM		
13	IFALPA will advise RASG-PA Secretariat about the possibility to sponsor the IAT/06 and PA-RAST/16 Meetings in concurrence with their 69th Annual Conference to be held in Panama City, Panama. PA-RAST/14, Agenda Item 10	German Diaz Barriga / IFALPA		

14	Arrange telecom to review and provide comments on the draft Strategic Communication Plan for RASG-PA. Brazil to distribute draft Strategic Communication Plan to PA-RAST prior to telecom. PA-RAST/14, Agenda Item 11	Oscar Quesada / ICAO SAM and Carlos Pellegrino / Brazil		
15	Set a link for the "United Kingdom Upset Recovery Toolkit" in the RASG-PA website. PA-RAST/14, Agenda Item 13	Eduardo Chacin / ICAO NACC		

12.2   The ESC is invited to adopt the following RASG-PA risk reduction goal:

- Using 2010 as a baseline, reduce fatality risk of Part 121 equivalent operations by 50% by the year 2020 in Latin America and the Caribbean.

Agenda Item 13:   Other Business

13.1   The **ALTA report on United Kingdom Upset Recovery Toolkit**

13.1.1   ALTA representative delivered a presentation based on the "*United Kingdom Upset Recovery Toolkit*" via Skype. The Toolkit is a video prepared by pilots for pilots and is available on YouTube. The Meeting recognized the value of the Toolkit and recommended to be posted in the RASG-PA website.

13.2   **Status of draft data sharing Memorandum of Understanding (MoU) between IATA and RASG-PA**

13.2.1   IATA briefed the Meeting that they are in the process of preparing a draft agreement for safety data sharing with RASG-PA, similar to the CAST– RASG-PA MOU. It will be presented at the PA-RAST/15 for review.

13.3   **Support the creation of a Volcanic Activity Pilot Group as a new RASG-PA Project**

13.3.1   The Secretariat presented WP/2 that referred to volcanic activity and its potential impact on flight safety. The WP invited the Meeting to support the creation of a Volcanic Activity Pilot Group In Mexico City International Airport (MMMX) similarly to Runway Safety Team (RST) implementation under the leadership of the Mexican DGAC, and with the participation of all stakeholders. The objective is to address the impact of volcanic activity on aviation and ensure appropriate actions are taken. The RASG-PA Secretariat will act as facilitator for the establishment of the group and monitor and report outcomes to RASG-PA, in order to share it with other locations in the world operating under similar conditions.

13.3.2   After some discussion, the Meeting expressed concern about the ad hoc process for commencing the Volcanic Ash Workshop using the RASG-PA some. PA-RAST members did not agree with the activity. The Volcanic Ash Workshop appears

to be locally focused on DGAC Mexico, and RASG-PA initiatives are based on data-driven risks to the entire Pan American Region.

13.3.3   The Meeting recommended that WP/02 should be refocused on the process for disseminating volcanic ash impact information. Information already exists from other ICAO efforts on volcanic ash. The information can be shared with DGAC Mexico or other local authorities as needed.

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APPENDIX A

LIST OF PARTICIPANTS PA-RAST/14 AND IAT/4

Name / Position	Administration / Organization	Telephone / E-mail
United States		
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AIRBUS		
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*Note: * Only attended PA-RAST/14*

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APPENDIX B

Fourth Information Analysis Team (IAT/4) Meeting

SUMMARY OF DISCUSSIONS

Date: 24 September 2013
Location: ICAO SAM Regional Office, Lima, Peru
Discussion
Items:
Agenda Item 1:   **Approval of Draft Agenda**

    1.1   The Meeting was attended by 8 participants from United States, Airbus, ALTA, Boeing, IATA, IFALPA and ICAO.

    1.2   The agenda was approved as presented.

Agenda Item 2:   **Analysis of ASIAS Database**

    2.1   The guidelines and restrictions on sharing of ASIAS data were reviewed. The ASIAS data was reviewed, and trends continue to be the same.

    2.2   The IATA Flight Data (FDX) event rate per event definition was reviewed. The top 10 unstable approach airports were reviewed. Discussions were held regarding airlines equipped with Performance Based Navigation (PBN) or Radio Navigation (RNAV). Some of the IATA events only include a few month of data. These events should not be considered in analysis. TCAS-RA trends do not support it

        •   **Action Item 1:** Ask Mitre for TCAS en-route events to validate if there are RVSM issues. Action Owner: Gerardo Hueto/Boeing.

Agenda Item 3:   **Undesired Aircraft States (UAS)**

    3.1   The list of 17 Undesired Aircraft States (UAS) measured by CAST was reviewed. IATA tracked some additional event states through FDX.

        •   **Action Item 2:** Create RASG-PA filter workbooks the following undesired aircraft states: Terrain Awareness Warning System (TAWS), Traffic Alert and Collision Avoidance System (TCAS), ALER and Loss of Control. Action Owner: Rob Noges/Boeing.

        •   **Action Item 3:** IATA will share the additional event definitions measured in FDX. The FDX events will be compared against the 17 CAST events for similarity/overlap. The compiled list will be reviewed at a future IAT meeting as an agenda item. Action Owner: Gabriel Acosta: IATA to share FDX events; Boeing to compile the events.

Agenda Item 4:   **IAT Recommended Actions for PA-RAST/14**

- **Action Item 4:** Seek guidance from ASIAS IAT on the value of sharing Loss of Control US-based metric with RASG-PA. Share airplane state awareness data/findings with RASG-PA. Action Owner: Rob Noges/Boeing.
- **Action Item 5:** Consider development of mid-air DIP. The benefit of up-to-date TCAS (TCAS II, Version 7.1) should be included in the DIP development (refer to SkyBrary). Action Owner: Gabriel Acosta/IATA

Agenda Item 5:   **Review Plan for Activities for 2014**

5.1   It is proposed that the model of one-day IAT meeting prior to PA-RAST meetings continue in 2014. PA-RAST will consider this recommendation.

Agenda Item 6:   **Other business**

6.1   Consider reducing future IAT meetings to a half day.

- **Action Item 6:** Take screen shots of the data to be shared in advance of the meeting. This would allow review of data in the event of disruption to connectivity. Action Owner: Gerardo Hueto/Boeing for ASIAS data Gabriel Acosta/IATA for FDX data.
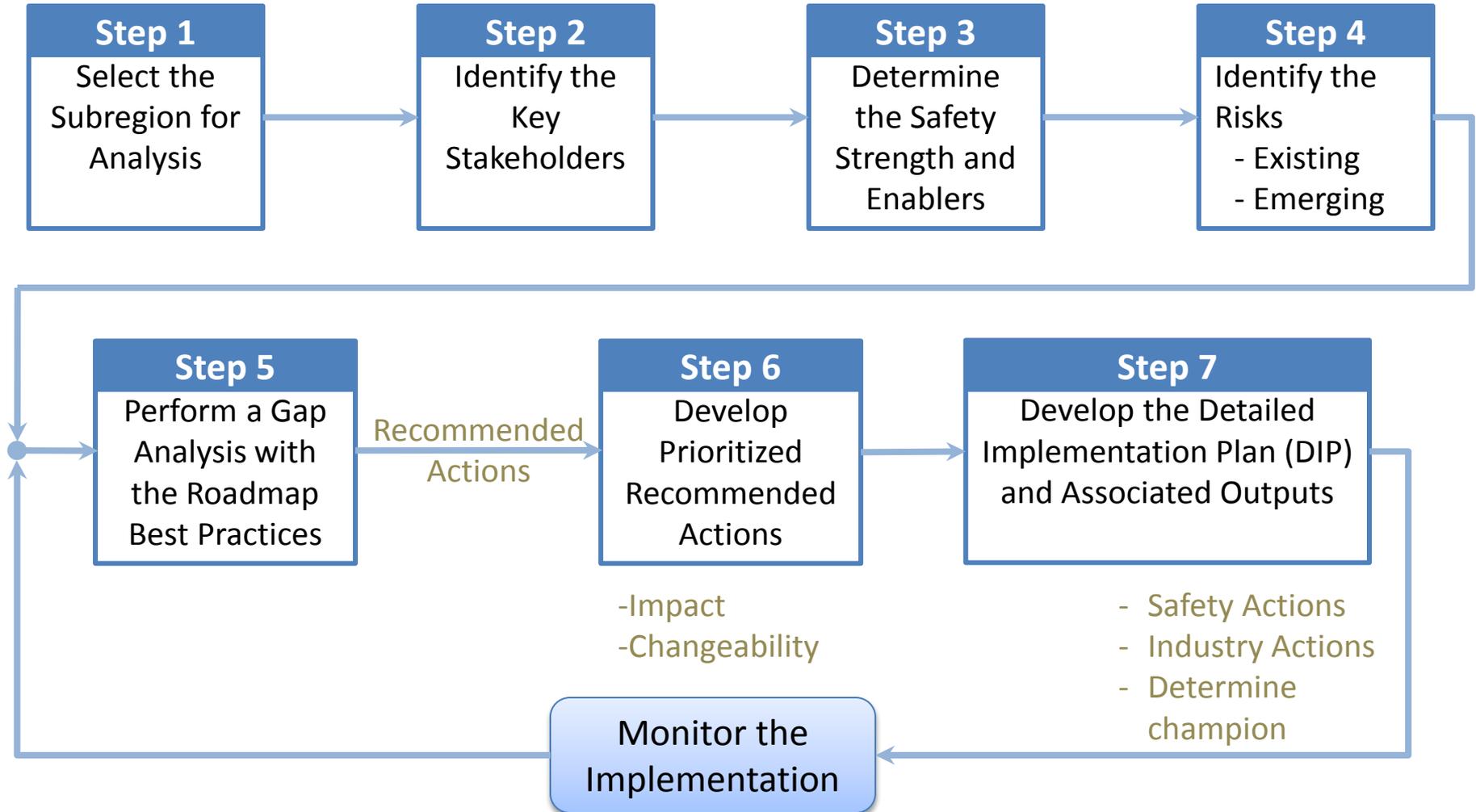
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RASG-PA Safety Enhancement Initiatives Methodology

Impact-changeability (IC) Level Chart –
Global Aviation Safety Roadmap (GASR) – Step 6
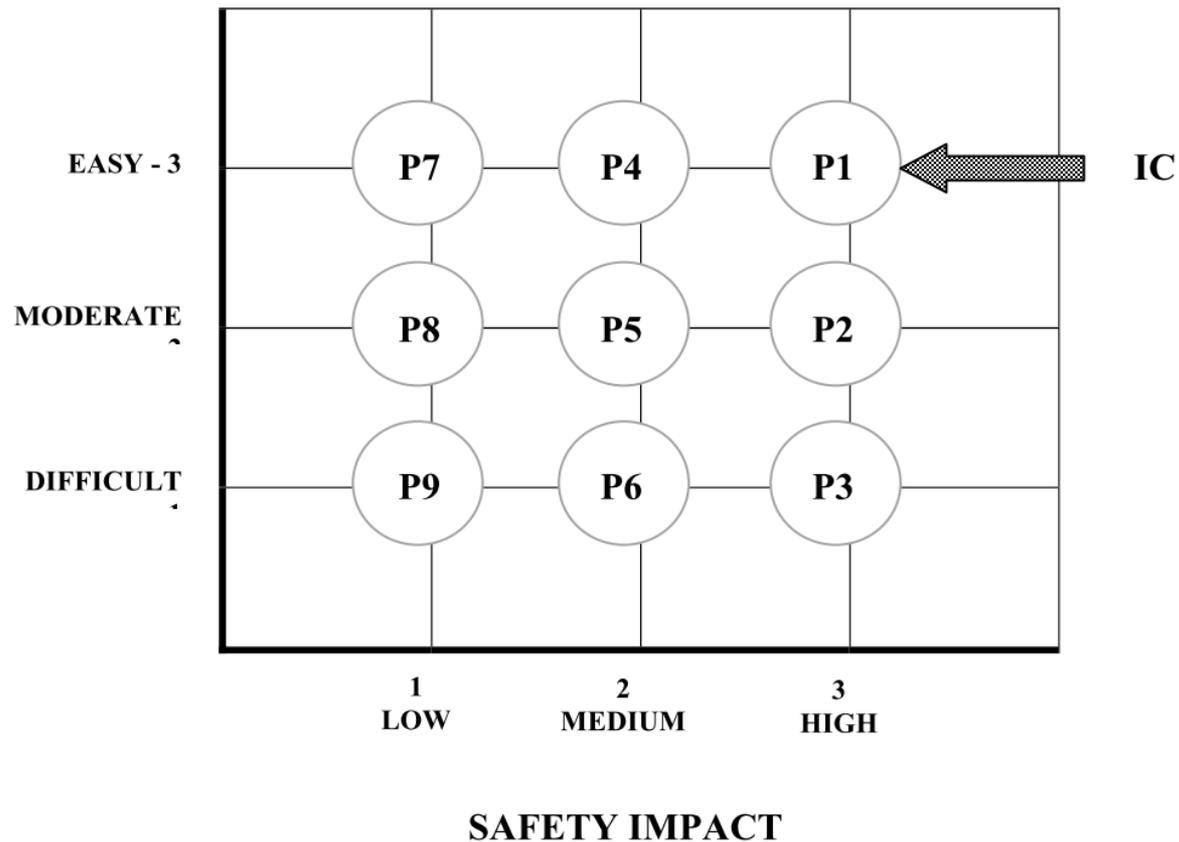
Development of a Safety Enhancement Initiative (SEI) by RASG-PA

RE DIPs & Outputs (PA-RAST/14)

DIP	Description	Champion	Output	Deadline	Status	Comments
RE/04	Promote pilot adherence to Standard Operating Procedures (SOPs) for approach procedures including go-around decision making process	ALTA	1) Distribution	18/01/11	Completed	
			2) Training		Completed	
RE/09	Specific Training for pilots and air traffic controllers to avoid unstabilized approaches	ALTA	1) ALTA will conduct a survey within its operators regarding the actions taken to mitigate unstable approaches.	20/02/11	Completed	
			2) Develop a strategy to deliver safety seminars for pilots and controllers in Pan America that targets recognition and avoidance of unstable approaches.	31/12/12	In process	Funding for developing the video granted by RASG-PA.
RE/8	Guidance in maintaining runway in accordance with Annex 14	ACI-LAC	1) Create a guide that collects best practices for runway maintenance	18/04/12	Completed	The document was renamed as: High level guide in maintaining runways in accordance with ICAO Annex 14. ACI-LAC presented the update d doc. at PA-RAST-13
			2) Promote and encourage the use of the guide		In process	
			3) Airports implement their maintenance plans according to the runway maintenance guide.		In process	
RE/11	Develop guidance material and training programs to create action plans for runway safety teams	DGAC Mexico	1) Gather and publish in the RASG-PA website available material that may be used in to mitigate hazards related to runway safety.		Completed	ICAO published the Runway Safety Team Handbook (draft) April 2013. Final to be delivered by the end of 2013.
			2) Electronic checklist development.		Completed	ICAO published the Runway Safety Team Handbook (draft) April 2013. Final to be delivered by the end of 2013.
			3) Develop a roll out plan.	25/08/12	Completed	ICAO HQ in coordination with ICAO NACC and SAM Regional Offices and the sponsorship and support of ACI-LAC, IFALPA, IFATCA, ECCAA, FAA, and other organizations delivered Regional Runway Safety Seminars in Miami, United States; Quito, Ecuador; and St. John's, Antigua. Two original Outputs were merged, resulting in # three.

LOC-I DIPs & Outputs (PA-RAST/14)

| DIP	Description	Champion	Output	Deadline	Status	Comments
LOC-I/06	**LOC Training – Human factors and automation**	PA-RAST	1) Review and evaluate the advisory circular created by the ICAO COSCAP's in Asia	20/02/11	Completed	
			2) ICAO will distribute a copy of the developed generic advisory circular to each State in the region.	20/03/11	Completed	
			3) Each State in the region will use the generic advisory circular as a template to prepare a State Advisory Circular on mode awareness and energy state management aspects of flight deck automation.	20/09/11	Completed	
			4) Mode awareness and energy state management aspects of flight deck automation guidance is provided by operators to all their pilots.	20/09/12	Completed	
LOC-I/07	**LOC Training – Advanced maneuvers**	ALTA	1) Listing of training materials available from regulators, industry, operators, academia and other resources.	18/01/11	Completed	
			2) Advanced Maneuvers Training provided to all operators.	18/04/11	Completed	
			3) Advanced Maneuvers Training provided by all operators. The expectation is that this training will be accomplish during initial training and as part of the recurrent training program via ground and simulator instruction within the certified flight envelope, with enphasis on recognition, prevention and recovery technique.	18/08/13	Superseded	
LOC-I/09	**Loc Training - Pilot monitoring policies and procedure for the operator and training program for crews**	IFALPA	1) Listing of training materials available from industry, operators and other resources.	20/02/11	Completed	
			2) Raise awareness of availability and need of Pilot Monitoring Training.	20/03/11	Completed	
			3) Pilot Monitoring Training material provided to all operators.	20/03/11	Completed	
			4) Pilot Monitoring Training provided by operators to all their pilots.	20/09/12	Completed	

CFIT DIPs & Outputs (PA-RAST/14)

DIP	Description	Champion	Output	Deadline	Status	Comments
CFIT/02	**Specific ALAR/CFIT Training for Pilots**	IATA	1)CAA conducts a review of all operators to ascertain which operators have CFIT prevention training and procedures in their approval training manual.	20/02/11	Completed	
			2) If an operator does not have a CFIT training, it will be encourage to incorporate CFIT training into the airline training program.	20/12/11	Completed	
CFIT/04	**CRM/Situational Awareness for pilots and air traffic controllers**	IFALPA & IFATCA	1)Incorporate and/or update CRM/situational awareness training programs for all flight crew members of air transport operators emphasizing aircraft position with relation to terrain and reviewing past occurrences.	20/02/12	Completed	
			2) Incorporate CRM/situational awareness training programs for all air traffic controllers and air navigation service providers (ANSP) emphasizing aircraft position with relation to minimum allowable altitude.	20/08/12	Completed	

Detailed Implementation Plans (DIPs)

- **The progress of the associated DIPs are:**
- **9 DIPs developed**
  - **2 in-progress**
  - **7 completed**

2 DIPs in Progress
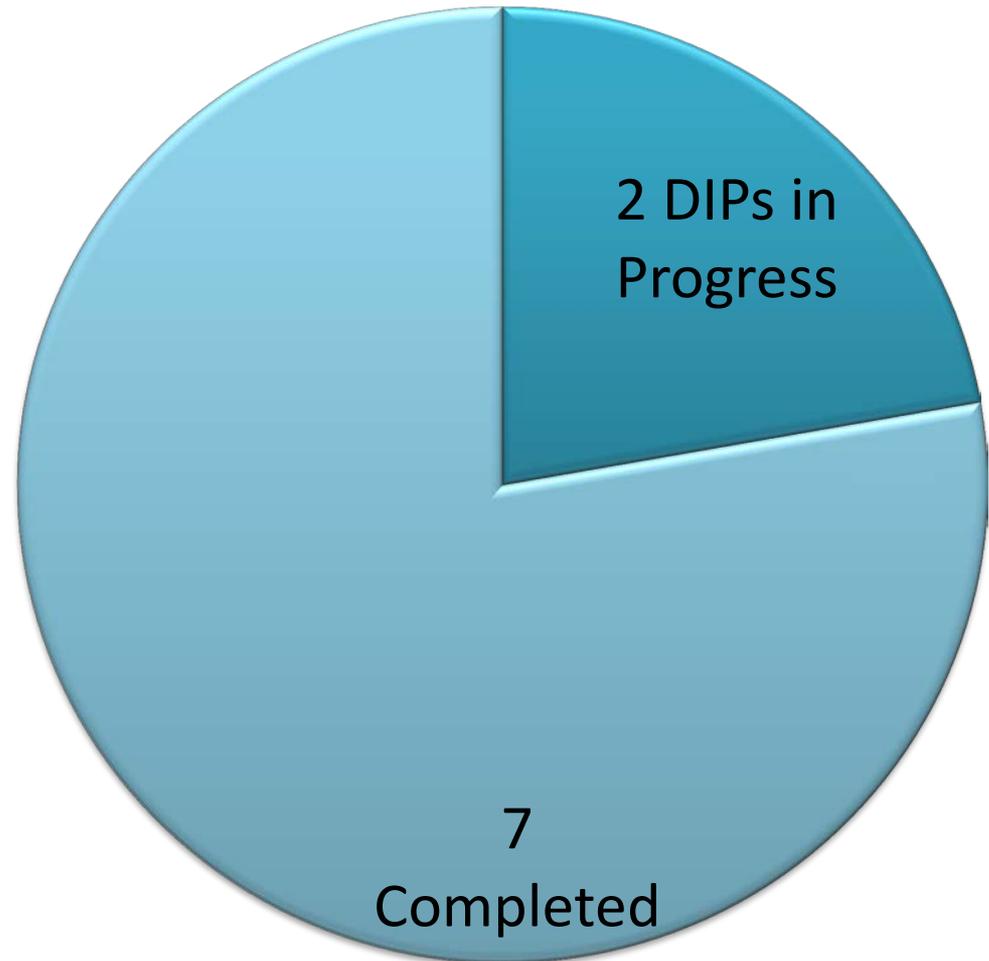
7 Completed

DIPs Associated Outputs

- **The progress of the associated DIP Outputs are:**
  - **27 Outputs developed**
    - **3 in-progress**
    - **24 completed**

3 in Progress

24 Completed