



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**FIRST MEETING OF THE ASIA PACIFIC REGIONAL  
AVIATION SAFETY TEAM**

**(APRAST/1)**

**RECOMMENDATIONS AND CONCLUSIONS**

**Bangkok, Thailand  
20 - 24 February 2012**

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**First Meeting of the Asia Pacific Regional Aviation Safety Team  
(APRAST/1)**

**20 – 24 February 2012, Bangkok Thailand**

**Recommendations and Conclusions**

**1. Registration**

1.1 The APRAST/1 Meeting was attended by 138 participants from 21 Member States/Administrations i.e. Australia, Bangladesh, China, Hong Kong China, Macao China, France, India, Japan, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, New Zealand, Pakistan, Papua New Guinea, the Republic of Korea, Singapore, Thailand, United States of America and Vanuatu; and 8 International Organizations/Industry Partners i.e. Association of Asia Pacific Airlines (AAPA), Airports Council International (ACI), Civil Air Navigation Services Organization (CANSO), European Aviation Safety Agency (EASA), International Air Transport Association (IATA), International Federation of Air Line Pilots' Associations (IFALPA), Airbus and Boeing.

**2. Opening Session**

2.1 The First Meeting of the Asia Pacific Regional Aviation Safety Team (APRAST/1) was held at the ICAO Asia and Pacific Office, Bangkok, Thailand, from 20 – 24 February 2012.

2.2 Mr. Mokhtar A. Awan, Regional Director, International Civil Aviation Organization (ICAO), Asia and Pacific delivered the welcome address.

2.3 Mr. John McCormick, Director of Aviation Safety, Civil Aviation Safety Authority Australia, and Chairperson of RASG-APAC made the Opening Remarks.

**3. Meeting Arrangements and Introduction of Participants**

3.1 The Secretariat announced the meeting arrangements and requested the delegates to introduce themselves.

**4. RASG-APAC Organizational Structure and Terms-of-Reference**

4.1 The Secretariat presented working paper APRAST/1 – WP/2 on Establishment of the RASG-APAC Organizational Structure and Terms-of-Reference. The Secretariat informed the meeting that following the decision of the ICAO Council in May 2011 the Regional Aviation Safety Group- Asia Pacific was established. The concept was endorsed by the 47th DGCA Conference in October 2010 and support was further reiterated by the COSCAPs' Steering Committee and the Pacific Aviation Safety Office (PASO). The First Meeting of the RASG-APAC which was held in October 2011 adopted the organizational structure and TORs of the RASG-APAC and its subsidiary bodies, which include the Asia Pacific Regional Aviation Safety Team (APRAST) a sub-group, and the two Ad hoc Working Groups i.e. APRAST - Accident Investigation Ad hoc Working Group (APRAST-AIG AWG) and the Asia Pacific Safety Reporting and Programme Ad hoc Working Group (AP-SRP AWG).

4.2 The meeting noted the TORs of APRAST and its subsidiary bodies i.e. ARPAST-AIG AWG and AP-SRP AWG.

## 5. Elections

5.1 The Secretariat presented working paper APRAST/1-WP/3 on Elections – APRAST and Subsidiary Bodies. The Secretariat requested the meeting to elect the Co-Chairs and Chairperson /Vice-Chairperson for the RASG-APAC sub group and the Ad hoc working groups respectively.

5.2 The APRAST/1 meeting elected the following nominated officials in accordance with the respective Terms-of-Reference and developed one Conclusion.

### a) Election - Asia Pacific Regional Aviation Safety Team (APRAST)

- i) Co-Chair - APAC Member Contracting State. In the absence of any nomination, the election to the Government Co-Chair position was postponed to APRAST/2 meeting.
- ii) Co-Chair - Member Industry. Mr. Anthony M. Houston, Assistant Director Safety, Operations & Infrastructure, Asia Pacific Region, IATA.

### b) Election - APRAST Accident Investigation Ad hoc Working Group (APRAST-AIG AWG)

- i) Chairperson – Mr. Chan Wing Keong, Director, Air Accident Investigation Bureau of Singapore.
- ii) Vice-Chairperson - In the absence of any nomination, the election to the position of Vice-Chairperson was postponed to the first meeting of the APRAST-AIG AWG.

### c) Asia Pacific Safety Reporting and Programme Ad hoc Working Group (AP-SRP AWG)

ICAO sought support from stakeholders to establish a core group who could provide data and expertise to identify hazards in support of the APRAST Safety Enhancement Initiatives (SEI). The SRP AWG would be led by a State and Industry Vice-Chairperson and the following State/Industry Vice-Chairpersons were elected:

- i) Vice-Chairperson – Mr. Fang Jun, Deputy Director, Safety Information Division of Aviation Safety Office of Civil Aviation Administration of China (CAAC).
- ii) Vice-Chairperson – Mr. Gerardo Heuto, Chief Engineer, Aviation System Safety, Boeing Commercial Airplanes.

The other stakeholders kindly agreed to provide a member in support of the AP-SRP AWG Core Team:

- iii) Core Team – Nominated representatives from CAA Singapore, EASA (to be confirmed), FAA/CAST, IATA, Airbus, COSCAP-SEA and ICAO Secretariat.

**Conclusion APRAST 1/1**

that, States which have expertise related to safety data analysis may like to advise the ICAO Secretariat of their intention to provide a member to the AP-SRP AWG.

**6. Adoption of Agenda/Programme**

6.1 The Secretariat presented working paper APRAST/1-WP/1 on Provisional Agenda/Programme.

6.2 The attached Agenda and Programme was adopted by the meeting.

**7. Status of Aviation Safety in Asia Pacific**

7.1 The Secretariat made a presentation on Status of Aviation Safety in Asia Pacific. The presentation included an assessment of safety in the global air transportation system, including a report on the GASP objectives to reduce the number of fatal accidents, the resulting fatalities as well as to reduce the global accident rate, particularly in light of the considerable traffic growth within the Asia Pacific region. It was highlighted that the runway safety related accidents account for almost 60% of the total followed by loss of control in flight, controlled flight into terrain and aircraft system failure. The meeting was advised of the *Outcomes* from the Global Runway Safety Seminar (2011) and the resulting Regional Runway Safety Seminars that will take place at Bali, Indonesia from 21-24 May 2012 and in Manila, Philippines in 2013. The meeting was also informed that the new runway safety toolkit is available online.

7.2 The presentation further discussed that the USOAP results have proven to be highly correlated to accident rates on a global basis. The USOAP data and other sources can be used to assess risk, and further reduce the number of accidents and related fatalities as the volume of traffic in the global air transportation system continues to grow.

7.3 On safety audit initiatives, the meeting was advised that audits being conducted by ICAO, States and International Organizations can be used to complement one another thus reducing the burden for States having to undergo multiple audits as well as to provide a holistic view of aviation safety. In this regard IATA has already agreed to share this data with ICAO and discussions have begun with CANSO and ACI to explore development of audit programmes.

7.4 The meeting was also informed that the safety activities being undertaken within the ICAO safety framework include policy and standardization, safety monitoring, safety analysis and implementation, including the revision of the Global Aviation Safety Plan. The new draft Safety Annex was presented to a Technical Panel of the Air Navigation Commission in November 2011. To this end the revised Safety Management Manual will be out in early 2012. It was noted that the ICAO Secretariat is continually enhancing the data collection and analysis process.

**8. ICAO Global Aviation Safety Plan**

8.1 The Secretariat made a presentation on the Global Aviation Safety Plan (GASP). The meeting was informed that the ICAO Assembly adopted Resolution A 37-4 on *Global Planning for Safety*. The Assembly resolved that ICAO shall implement and keep current the GASP to support the relevant strategic objectives of the Organization. The GASP (July 2007) is being revised based on the principles articulated within Assembly Resolution A 37 and provides a proactive strategy to improve

aviation safety through incorporation of the latest developments related to safety management practices, providing a multi-disciplinary and risk based approach to achieve continuous improvement in global safety performance.

8.2 The GASP is complemented by the Global Air Navigation Plan (GANP), which supports the continued evolution of the international air traffic management system by optimizing advances in communication, navigation and surveillance technologies. Combined, these two documents create a comprehensive approach to improve aviation safety and efficiency through involvement of all stakeholders. Their commitment, together with ICAO, is fundamental to achieve further enhancements in the global aviation system.

8.3 The meeting was advised that ICAO's initial work to proactively assess risk considers a States' USOAP results, which are generally correlated with safety performance along with traffic volume and projected traffic growth.

8.4 The meeting noted that while accident rates and the number related fatalities are critical indicators of safety performance, the ultimate objective is to continually reduce the risk of loss of human life in the air transportation system.

8.5 It was concluded that the GASP provides an inclusive global framework intended to leverage the benefits of collaboration / cooperation and is therefore applicable to ICAO, its Member States, international and regional organizations, as well as product and service providers involved in the promotion of aviation safety. The enhanced GASP will introduce the concept of safety oversight maturity whereby the focus for Global Safety Initiative (GSI) implementation, over time, will become related to the existing capabilities of a State's safety oversight system. The changes to GASP is also being coordinated with the Industry.

## **9. Regional Performance Framework for Safety**

9.1 The Secretariat presented working paper APRAST/1-WP/4 on Regional Performance Framework for Safety and RASG-APAC/1-WP/6 on Regional Performance Framework for Safety, highlighting that the ICAO planning objective is to implement a performance based safety framework through safety systems and procedures in a progressive, cost-effective and cooperative manner. This approach would provide guidance for the prioritization and allocation of aviation safety resources with measurable results and associated safety targets.

9.2 The aim of a performance-based approach is to reduce risk and achieve continuous improvement in safety performance through the establishment and monitoring of specific performance criteria based on a data driven process.

9.3 The advantage of a performance-based approach is that it is result oriented, transparent and promotes accountability. It shifts from prescribing solutions to specifying desired performance outcomes; employs quantitative and qualitative methods; avoids a technology driven approach; helps decision makers to set priorities, makes the most appropriate trade-offs, and allows optimum resource allocation.

9.4 The Secretariat pointed out that tracking the progress of all ICAO Regions in implementing safety enhancements would also be important to determine the effectiveness of the GASP on both a regional and global basis and to avoid duplications in effort. To support the regions in tracking their progress, the Secretariat developed a software tool to monitor the development and implementation of safety enhancements.

9.5 The meeting noted the contents of the presentation and in accordance with the RASG-APAC Decision 1/2 considered the use of the Regional Performance Framework contained in the Secretariat working paper as well as the supporting software described by the working paper and developed the following conclusion:

**Conclusion APRAST 1/2**

that, the APRAST and its subsidiary bodies (APRAST-AIG AWG and AP-SRP AWG) organize the RASG-APAC work programme in accordance with the performance-based approach and utilize the ICAO developed software Tool to monitor the development and implementation of safety enhancements.

**10. Review of COSCAP ARAST Work on Safety Enhancement**

10.1 The meeting noted that the COSCAPs and the combined safety teams under ARAST have focused on Safety Enhancements with greatest impact and accepted for implementation 45 of the 76 Safety Enhancements developed by CAST; and when implemented, would result in 60% reduction in fatal accident risks. The meeting also noted that to assist with the implementation of Safety Enhancements the COSCAPs have developed 28 Advisory Bulletins/Advisory Circulars and initiated 23 Action Items to implement the first five Global Safety Initiatives (GSIs) under the Global Aviation Safety Plan (GASP).

**11. Commercial Aviation Safety Team (CAST) - Update**

11.1 The Federal Aviation Administration (FAA) provided an update on the Commercial Aviation Safety Team (CAST). The meeting noted that the strength of CAST lies in its extensive membership, its proactive commitment to safety and its ability to effect change. The CAST has proven effective because it is a Voluntary partnership of Key stakeholders in the operation of the commercial aviation system and Safety leaders from those organizations able to commit and effect change. CAST strategy is to use data to identify accident contributing factors and interventions that will reduce the likelihood of the contributing factors occurrence.

11.2 The meeting also noted the development of the Aviation Safety Information Analysis and Sharing System (ASIAS), which is a collaborative Government-Industry initiative on data sharing and analysis to proactively discover safety concerns before accidents or incidents occur, leading to timely mitigation and prevention. The ASIAS was created in order to develop tools to make data analysis more efficient; identify and access key data sources and discover potential aviation safety risks using the key data sources. To seek advantage of this repository, the meeting developed the following conclusion:

**Conclusion APRAST 1/3**

that, the CAST be requested to kindly provide ASIAS and other safety related information to the ICAO RASG-APAC/APRAST/AP SRP-AWG, as required, to enable APRAST/AP SRP-AWG to better identify hazards, develop safety interventions and determine the effectiveness of APRAST Safety Enhancements Initiatives.

## **12. European Strategic Safety Initiative (ESSI) - Update**

12.1 The European Aviation Safety Agency presented on the European Aviation Safety Teams and its Activities. The presentation provided a background on the European Aviation Safety Agency and the work being done in the areas of safety research and analysis, leading to risk management. Highlighting the features of the European Strategic Safety Initiative (ESSI), the meeting was informed of the various teams under this initiative and their respective role i.e. the European Commercial Aviation Safety Team (ECAST), the European General Aviation Safety Team (EGAST) and the European Helicopter Safety Team (HEST). The activities of the ECAST include SMS Guidelines; Ground Safety; Runway Excursions; and the European Operators FDM Forum. Likewise the other two teams are also making significant contribution. EASA noted that while it is a challenge to create safety teams in a multi-lingual and multi-cultural environment, the benefits far outweigh any difficulties. The European experience has shown that what can be a difficulty can also be a strength; and the regional coordination works and EASA activities, including ESSI, are a testament to this.

## **13. Safety Data from a Manufacturer's Perspective**

13.1 The Boeing Commercial Airplanes provided a Manufacturer's Perspective on Using Safety Information. The Boeing safety leadership believes in working together for a safe and efficient global air transportation system today and in the future. To ensure safe air travel required close interaction, cooperation and coordination between the manufacturers, the operators and the governments. Each had their obligations towards ensuring safe aeroplane, safe operation and safe infrastructure respectively. The statistics on accident rates by region of the world (on western built transports greater than 60, 000 pounds) showed a global average of 1 accident per million departure in 2010 with Asia showing a rate of 1.6 and China 0.2. The statistics projected by Boeing showed that CFIT and LOC had high fatality risks; and the number of accidents in these two areas and during landing were also significantly high.

13.2 Boeing stressed that to address risks we need to identify problems based on data and simultaneously establish a consensus on priorities. This should be followed by evaluating the implementation of appropriate Safety Enhancements to reduce risks. Developing an implementation plan, identifying the existing gaps and instituting the required actions were essential prerequisites. Finally measuring the implementation levels and effectiveness of processes and procedures already put in place was necessary to gauge success.

13.3 Boeing highlighted that tools were available to prevent most accidents occurring today but aviation being a complex system, no single stakeholder can provide the necessary safety enhancements. A collaborative approach promotes rapid implementation of risk mitigation strategies in an efficient manner.

## **14. Controlled Flight into Terrain**

14.1 The Secretariat presented a working paper APRAST/1-WP/5 on Controlled Flight into Terrain (CFIT), which provides detailed information on the initiatives undertaken by ICAO, COSCAPs and other international organizations related to reducing the risk of a CFIT occurrence.

14.2 The meeting noted that accident data indicates that CFIT accounts for just over 20% of all fatal accidents, a disproportionately high percentage given the low proportion of all accidents attributed to this category. While ICAO and other organizations have undertaken a number of initiatives over the past 15 years, which have met with considerable success, the data would suggest that additional efforts should be considered.



14.3 ICAO Assembly Resolution A 31-9 urges States to implement the ICAO program for the prevention of CFIT. ICAO introduced a number of amendments to SARPs and related guidance material to reduce the risk of CFIT accidents.

14.4 The Secretariat also presented the data from the Universal Safety Oversight Audit Programme (USOAP) related to CFIT initiatives that could be utilized by the APRAST to determine the priorities on the development and implementation of safety enhancement initiatives.

14.5 The Flight Safety Foundation (FSF) has led an initiative to reduce CFIT accidents and produced an Approach and Landing Accident Reduction (ALAR) Toolkit. A major update of the FSF ALAR Toolkit, featuring the findings of analyses of recent accident data, as well as the data-driven findings of the FSF Runway Safety Initiative, was developed in 2010.

14.6 The meeting reviewed the eight (8) proposed Safety Enhancement Initiatives (SEI), including previous COSCAP work, related to CFIT and amended the Safety Impact, Changeability and Indicator as appropriate. It also identified the Champions for most of the Safety Enhancement Initiatives and further identified one additional SEI on 'review of existing and emerging technologies for enhanced flight visibility' (CFIT 9). The meeting drafted two Detailed Implementation Plans (DIPs) for APRAST 1/CFIT 1 and APRAST 1/CFIT 2 respectively. The meeting noted the ICAO requirements related to CFIT and the work done by the COSCAPs/APRAST in this area, and developed the following conclusions:

**Conclusion APRAST 1/4**

that, the APRAST members provide comments to the Secretariat on the Draft Safety Enhancement Initiatives (SEI) as contained in Attachment I, one month after receipt of the record of discussions. Subsequently the SEIs will be updated; considered adopted by the APRAST; and provided to participants.

**Conclusion APRAST 1/5**

that, on a priority basis, subject to RASG approval, APRAST commence work on two SEIs: APRAST 1/CFIT 1 - Promote compliance with ICAO SARPs regarding the equipment of GPWS-FLF (Forward Looking Feature) and ensure flight crews are trained and competent to effectively manage GPWS events. Review issues related to GPWS-FLF performance; and APRAST 1/CFIT 2 - Promote the development and pilot adherence to Standard Operating Procedures (SOPs) which could reduce the risk of a CFIT event. The first task would be to develop DIPs. The priority DIPs to be developed by champions/facilitator and sent to ICAO Secretariat by 23 April 2012, who will facilitate review as required in consultation with Co-Chair.

**Conclusion APRAST 1/6**

that, the remaining (non-priority) Draft Detailed Implementation Plans (DIPs) be developed by champions/facilitator for review at the next APRAST Meeting.

**15. Runway Safety**

15.1 The Secretariat presented working paper APRAST/1-WP/6 on Runway Safety which provides detailed information on the initiatives undertaken by ICAO, COSCAPs and other international organizations related to reducing the risk of a Runway Safety Accident.

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15.2 The meeting noted that Runway Safety Accidents represent 59% of all accidents accounting for 29% of all fatal accidents and 19% of all related fatalities between 2006 and 2010.

15.3 The meeting was apprised that ICAO Assembly Resolution A37-6 on Runway Safety urges States to take measures to enhance runway safety, including the establishment of runway safety programmes using multi-disciplinary approach, that includes at least the regulators, aircraft operators, air navigation service providers, aerodrome operators and aircraft manufacturers to prevent and mitigate the effects of runway excursions, runway incursions and other occurrences related to runway safety.

15.4 The meeting reviewed the eight (8) proposed Safety Enhancement Initiatives (SEI), including previous COSCAP work, related to Runway Incursions and amended the Safety Impact, Changeability and Indicator as appropriate. It also identified the Champions for each of the Safety Enhancement Initiatives. The meeting noted the work done by the COSCAPs/APRAST in the area of Runway Incursion.

15.5 The meeting also identified ten (10) additional Safety Enhancement Initiatives, related to Runway Excursions, for consideration by APRAST.

15.6 The meeting further identified APRAST 1/RE 2 (Identify Specific training for pilots and air traffic controllers to avoid unstabilized approaches); and APRAST 1/RE 6 (Timely and accurate notification about runway conditions by AIS and ATS), as Priority 1 issues. The meeting drafted a Detailed Implementation Plan for APRAST 1/RE 2 and developed the following conclusions:

**Conclusion APRAST 1/7**

that, the APRAST members provide comments to the Secretariat on the Draft Safety Enhancement Initiatives (SEI) as contained in Attachment I, one month after receipt of the record of discussions. Subsequently the SEIs will be updated; considered adopted by the APRAST; and provided to participants.

**Conclusion APRAST 1/8**

that, on a priority basis, subject to RASG approval, APRAST commence work on two SEIs - APRAST 1/RE 2 (Identify Specific training for pilots and air traffic controllers to avoid unstabilized approaches); and APRAST 1/RE 6 (Timely and accurate notification about runway conditions by AIS and ATS). The first task would be to develop DIPs. The priority DIPs to be developed by champions/facilitator and sent to ICAO Secretariat by 23 April 2012, who will facilitate review as required in consultation with Co-Chair.

**Conclusion APRAST 1/9**

that, the remaining (non-priority) Draft Detailed Implementation Plans(DIPs) be developed by champions/facilitator for review at the next APRAST Meeting.

**Conclusion APRAST 1/10**

that, in view of the significant increase in number of runway excursions it is recommended that RASG-APAC consider the establishment of a dedicated Ad hoc Working Group to exclusively address/study issues related to Runway Excursions commencing with those outlined in Conclusion APRAST 1/8.

## 16. Loss of Control

16.1 The Secretariat presented working paper APRAST/1-WP/7 on Loss of Control (LOC) which provides information on the initiatives being undertaken.

16.2 The meeting noted that LOC in-flight category is responsible for the highest percentage of fatalities – approximately 30% of the total even though less than 5% of all accidents were classified as being related to LOC.

16.3 While ICAO Annex 6 requires training on all types of emergency and abnormal situations, it does not specifically mention loss of control or upset recovery training. PANS Training (Doc. 9868) mandates upset recovery training as an MPL training requirement. Aircraft jet manufacturers recommend upset training and an Airplane Upset Recovery Training Aid has been developed to provide guidance in this regard.

16.4 The meeting was informed that ICAO will host the FAA Aviation Rule Making Committee (ARC) on LOC, which will serve as the international forum to review LOC issues. Six meetings are planned in 2012 and it is anticipated that the outcomes from these meetings may result in amendment to ICAO training requirements and related guidance material.

16.5 The Secretariat also presented the data from the Universal Safety Oversight Audit Programme (USOAP) related to LOC initiatives that could be utilized by the APRAST to determine some priorities on the development and implementation of safety enhancement initiatives.

16.6 The meeting reviewed the six (6) proposed Safety Enhancement Initiatives (SEIs), including previous COSCAP work, related to LOC and amended the Safety Impact, Changeability and Indicator as appropriate. It also identified seven (7) additional SEIs including one on 'Hazard Identification, risk assessment and management' (LOC 7), for which it identified a Champion and drafted a detailed implementation plan. The meeting noted the ICAO requirements related to LOC and the work done by the COSCAPs/APRAST in this area, and developed the following conclusions:

### **Conclusion APRAST 1/11**

that, the APRAST members provide comments to the Secretariat on the Draft Safety Enhancement Initiatives (SEI) as contained in Attachment I, one month after receipt of the record of discussions. Subsequently the SEIs will be updated; considered adopted by the APRAST; and provided to participants.

### **Conclusion APRAST 1/12**

that, on a priority basis, subject to RASG approval, APRAST commence work on one SEI - APRAST 1/LOC 7 (Hazard Identification, risk assessment and management). The first task would be to develop DIPs. The priority DIPs to be developed by champions/facilitator and sent to ICAO Secretariat by 23 April 2012, who will facilitate review as required in consultation with Co-Chair.

### **Conclusion APRAST 1/13**

that, the remaining (non-priority) Draft Detailed Implementation Plans (DIPs) be developed by champions/facilitator for review at the next APRAST Meeting.

**17. RASG-APAC/1 - Decision 1/5 - Review RASG-APAC/1-WP/21 - Airfield Safety in the United States**

17.1 The United States made a presentation on the FAA Runway Safety Initiatives. The presentation discussed how the United States FAA places a high priority on improving airfield safety and how, in partnership with industry, airport operators, and air traffic controllers, it has implemented many changes to reduce the risk of runway incursions and excursions. The meeting was informed that the Airport Cooperative Research Programme (ACRP) is an industry-driven, programme that develops near-term, practical solutions to problems faced by airport operators. Details on various projects undertaken can be found at [www.trb.org](http://www.trb.org)

17.2 The meeting considered the information in the paper on Airfield Safety (RASG-APAC/1-WP/21) and in light of the RASG-APAC Decision1/5 developed the following conclusion:

**Conclusion APRAST 1/14**

that, as many of the initiatives discussed in the United States paper on Airfield Safety are under consideration by ICAO and may be endorsed for implementation in future, the APRAST may monitor the developments.

**18. Runway Incursions-Wrong Runway Departures-SE 182**

18.1 COSCAP-SA presented working paper APRAST/1-WP/8 on Runway Incursions – Wrong Runway Departures. The meeting noted the contents of the brief overview on the pertinent aerodrome control phraseologies as recommended by ICAO and FAA and its usage in situations with respect to aircraft/vehicle movement involving multiple runways crossing. The FAA aerodrome control phraseologies involving crossing of multiple runways require progressive ATC clearance wherein an aircraft/vehicle must have crossed a previous runway before another runway crossing clearance may be issued. It implies that the ICAO phraseology on crossing of multiple runways may fall short and do not fully mitigate the risks with respect to Wrong Runway Departures. The meeting, therefore, developed the following conclusion:

**Conclusion APRAST 1/15**

that, APRAST refer APRAST/1-WP/8 to ICAO for its review and comment.

**19. ACI Airport Excellence (APEX) in Safety Programme**

19.1 The Airports Council International (ACI) presented a working paper APRAST/1-WP/9 on ACI's Airports Excellence (APEX) in Safety Programme. The meeting noted the benefits APEX provides as a dynamic and systematic approach for safety from the industry, while fostering regional cooperation in the aerodrome field, with the ultimate goal of decreasing the number of runway incursions and reducing the number of fatal accidents.

19.2 The meeting noted the contents of the working paper/presentation.

**20. RASG-APAC/1 Decision 1/3 - Review RASG-APAC/1-WP/22 – Improving International Validation Programs: Reliance on Data-Driven Requirements**

20.1 The meeting considered the information provided in the paper presented by the United States on Improving International Validation Programs and Reliance on Data-Driven Requirements and developed the following conclusion:

**Conclusion APRAST 1/16**

that, APRAST supports harmonization of requirements throughout the international community, assuming that those requirements are data-driven and feasible for implementation.

**21. RASG-APAC/1 Decision 1/7 - Review DGCA/48-DP/3/22 – Search and Rescue in New Caledonia and French Polynesia**

21.1 The meeting noted the issues of Search and Rescue in New Caledonia and French Polynesia, as presented during the 48<sup>th</sup> Conference of Directors General of Civil Aviation in 48DGCA DP/3/22. As issues related to Search and Rescue matters were already under deliberation by the APANPIRG ATM/AIS/SAR sub-group, the meeting developed the following conclusions:

**Conclusion APRAST 1/17**

that, in order to avoid duplication of effort, the paper 48DGCA DP/3/22 be forwarded to APANPIRG for consideration by the ATM/AIS/SAR sub-group.

**Conclusion APRAST 1/18**

that, States / Administrations in the Asia Pacific region kindly consider inviting Accident Investigation specialist / participants to their respective Search and Rescue Training programmes.

**22. RASG-APAC/1 Decision 1/6 - Review RASG-APAC/1-WP/20 – Proposed Crewmember and Dispatcher Training Regulations**

22.1 The United States presented working paper RASG-APAC/1-WP/20 – Proposed Crewmember and Dispatcher Training Regulations. The meeting noted that the FAA issued a Notice of Proposed Rulemaking (NPRM) to revise the existing crewmember and aircraft dispatcher training regulations in January 2009. Based on the comments and findings from the investigation into the Colgan Air accident in February 2009, the FAA subsequently decided to develop and publish a Supplemental NPRM. The SNPRM increases critical safety functions by amending training and evaluation for pilots, flight engineers, flight attendants, and aircraft dispatchers in areas that are critical to safety.

22.2 The meeting noted the contents of the working paper/presentation.

### **23. State Presentation**

23.1 Japan presented working paper APRAST/1-WP/10 on the Role of the Government of Japan in Training Pilots. The paper noted that pilots' quality is one of the core components of the air transport safety, but training pilots needs major-scale facilities, advanced techniques and a long period of time. The paper concluded that securing a sufficient number of pilots is a challenge and urged States to share information on the role of public pilots training institutions and scale of training.

23.2 The meeting noted the contents of the working paper presented by Japan.

### **24. ICAO Integrated Safety Trend Analysis and Reporting System - iSTARS**

24.1 The Secretariat made a presentation to introduce the ICAO Integrated Safety Trend Analysis and Reporting System (iSTARS). The iSTARS is a web-based system which groups together different safety related datasets and allows for effective integrated safety analysis. ICAO is continually developing the iSTARS, which currently contains data about Occurrences (Accidents and Incidents, Trends, Statistics etc.), Compliance (Implementation-LEI, USOAP Protocols, Action Plans) and Risks (Traffic, Integrated Analysis, Geographical Distributions). The current structure includes the Secretariat site, which is basically the development /test site; in addition, there is a Secure Portal with full access to restricted information and a Public Site with no access to restricted information and data.

24.2 The Protocol Questions page shows all the PROTOCOL Questions (PQs), as well as their related PQ number, Critical Element, reference document, and the PQ LEI. The dynamic chart shows a visualization of the USOAP performance of all States. This tool allows the users to customize the chart, depending on their needs. The iSTARS will also feature a harmonized safety reporting system for USOAP ICVM, Runway Safety, Wake Vortex, Accidents and Incidents, and Air Navigation Deficiencies. The iSTARS also includes the dynamic interactive maps, which shows the scheduled commercial traffic. The Safety Library contains ICAO documents, USOAP Reports, ICAO Annexes, forms, presentation and other files pertaining to aviation safety. The iSTARS can be accessed through <http://portal.icao.int>.

### **25. Review of State Safety Programme Implementation**

25.1 The Secretariat presented an overview of the APAC SSP Gap Analysis. The meeting noted that only 10 States had forwarded the results of their Gap analysis undertaken in response to the request from the ICAO Asia Pacific Office. As information from only 10 States would not adequately represent the level of implementation in the region, the results from a previous SSP Gap Analysis undertaken by the ARAST was also considered. Noting the feedback from the Gap Analysis, the meeting developed the following conclusions:

#### **Conclusion APRAST 1/19**

that, in order to provide support related to implementation, APRAST include SSP as part of its regular work programme.

#### **Conclusion APRAST 1/20**

that, in order that APRAST can identify gaps in implementation of SSP, States who have yet to do so provide their Gap Analysis to ICAO soonest.

**Conclusion APRAST 1/21**

Pakistan agreed to champion and identify APRAST actions that could support SSP implementation by States.

**26. Any Other Business**

**26.1 Follow-up on RASG-APAC/1 Decision 1/4 - Oversight of Operations Conducted within Foreign States.**

26.1.1 The meeting noted that in deference to the RASG-APAC Decision 1/4 on *Oversight of Operations Conducted within Foreign States*, only one State had submitted the requested information to the Regional Office. As such it was not possible for the APRAST to undertake any analysis as requested by RASG-APAC. The meeting also noted with appreciation the information shared by New Zealand. The ICAO APAC Office would be awaiting the responses from the States to share their experiences.

**Conclusion APRAST 1/22**

that, States who have yet to do so, are requested to provide information on Oversight of Operations Conducted within Foreign States as noted in RASG-APAC Decision 1/4 above.

**Conclusion APRAST 1/23**

that, once the information is received by the Regional Office, APRAST will review and forward the results and recommendations to the next RASG-APAC meeting.

**26.2 Registry of Emerging Issues**

26.2.1 The Co-Chair invited the meeting to discuss issues related to the remaining Occurrence Categories which include the following:

- System or Component Failure
- Turbulence
- Others
- Unknown
- Inflight Fire Registry of Emerging Issues

26.2.2 While the 1<sup>st</sup> meeting of the APRAST focused extensively on CFIT, Runway Safety, and Loss of Control, it is recognized that Safety Enhancements Initiatives (SEI) may be identified in other occurrence areas. The meeting developed the following conclusions:

**Conclusion APRAST 1/24**

that, APRAST maintain a registry of emerging issues and Members of APRAST are requested to submit any issues in a paper to the APRAST, for review and possible inclusion in the registry.

**Conclusion APRAST 1/25**

that, EASA kindly provide a listing of the taxonomies to APRAST that would be included in the ICAO chart of accident occurrences.

**27. Date and Venue for APRAST/2, APRAST-AIG AWG/1, AP-SRP AWG/1 and Regular Teleconferences**

27.1 As required by the Terms-of-Reference, the APRAST/1 meeting decided to hold its second meeting during the calendar year 2012, ahead of the forthcoming RASG-APAC/2 meeting scheduled in October 2012. The meeting agreed to the following dates and venues for the meeting of the sub-group and its subsidiary bodies.

APRAST/2	:	21 - 24 August, 2012	Bangkok, Thailand
APRAST – AIG AWG	:	6 – 8 June, 2012	Bangkok, Thailand
AP - SRP AWG	:	13 – 15 June, 2012	Bangkok, Thailand

27.2 States/organizations to advise the ICAO Secretariat if they wish to be members of the APRAST – AIG AWG.

27.3 The Co-Chair advised the meeting that he would organize two teleconferences at an appropriate time before the next APRAST meeting. Included in the teleconference would be the Co-Chairs APRAST, Facilitators, Champions for 5 priority SEIs, Chair of the Ad hoc Working Groups and ICAO Secretariat.

**28. Adoption of Conclusions and Recommendations**

28.1 The APRAST/1 meeting adopted the Conclusions and Recommendations and requested that they be put up to the RASG-APAC for approval.

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*International Civil Aviation Organization*

**FIRST MEETING OF THE ASIA PACIFIC REGIONAL AVIATION  
SAFETY TEAM (APRAST/1)**

*Bangkok, Thailand, 20-24 February 2012*

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**AGENDA**

1. Registration
2. Opening Session
3. Meeting Arrangements and Introduction of Participants
4. RASG-APAC Organizational Structure and Terms-of-Reference
5. Elections
6. Adoption of Agenda/Programme
7. Status of Aviation Safety in Asia Pacific
8. ICAO Global Aviation Safety Plan
9. Regional Performance Framework for Safety
10. ICAO Integrated Safety Trend Analysis and Reporting System - iSTARS
11. Commercial Aviation Safety Team (CAST) - Update
12. European Strategic Safety Initiative (ESSI) - Update
13. Safety Data from a Manufacturer's Perspective
14. Review of State Safety Programme Implementation
15. Review of COSCAP ARAST Work on Safety Enhancement
16. Controlled Flight into Terrain
17. Runway Safety
18. Loss of Control
19. RASG-APAC/1 Decision 1/3 - Review RASG-APAC/1-WP/22
20. RASG-APAC/1 Decision 1/7 - Review DGCA/48-DP/3/22
21. RASG-APAC/1 Decision 1/6 - Review RASG-APAC/1-WP/20
22. State Presentations
23. Industry Presentations
24. Any Other Business
25. Date and Venue for APRAST/2, APRAST-AIG AWG/1,  
AP-SRP AWG/1 and Regular Teleconferences
26. Adoption of Conclusions and Recommendations
27. Side Meetings



*International Civil Aviation Organization*

**FIRST MEETING OF THE ASIA PACIFIC REGIONAL AVIATION SAFETY TEAM (APRAST/1)**

*Bangkok, Thailand, 20-24 February 2012*

**PROGRAMME**

<b><u>Monday, 20 February 2012 – DAY ONE</u></b>		
0800 – 0830	1. Registration	
0830 – 0900	2. Opening Session <ul style="list-style-type: none"> <li>➤ Welcome Address by Mr. Mokhtar A. Awan, ICAO Regional Director</li> <li>➤ Opening Remarks by Mr. John McCormick, Director of Aviation Safety, Civil Aviation Safety Authority Australia, and Chairperson of RASG-APAC</li> </ul>	
0900 - 0930	3. Meeting Arrangements and Introduction of Participants	Secretariat
0930 - 1000	4. RASG-APAC Organizational Structure and Terms-of-Reference <p>4.1 Establishment of the RASG-APAC Organizational Structure and Terms-of-Reference (APRAST/1-WP/2)</p> <ul style="list-style-type: none"> <li>➤ RASG-APAC/1 Decision 1/1 - RASG-APAC/1-WP/3 - Establishment of the RASG-APAC Structure and Review of the Draft Terms-of-Reference</li> </ul>	Secretariat
1000 – 1030	<ul style="list-style-type: none"> <li>➤ <i>Group photo (Venue-Front of Kotaite Wing)</i></li> <li>➤ <i>Coffee/Tea break (Venue-Cafeteria)</i></li> </ul>	
1030 – 1100	5. Elections <p>5.1 Election – APRAST and Subsidiary Bodies (APRAST/1-WP/3)</p> <ul style="list-style-type: none"> <li>➤ Asia Pacific Regional Aviation Safety Team (APRAST) <ul style="list-style-type: none"> <li>• Co-chair - APAC Member Contracting State</li> <li>• Co-chair - Member Industry</li> </ul> </li> <li>➤ APRAST Accident Investigation ad hoc Working Group <ul style="list-style-type: none"> <li>• Chairperson</li> <li>• Vice-Chairperson</li> </ul> </li> <li>➤ Asia Pacific Safety Reporting and Programme ad hoc Working Group <ul style="list-style-type: none"> <li>• Chairperson</li> <li>• Vice-Chairperson</li> </ul> </li> </ul> <p><i>Note: Elections for Chairperson, Vice-Chairperson for APRAST-AIG AWG and AP-SRP AWG will be conducted on Day 2, 21 February 2012.</i></p>	Secretariat

1100 - 1115	6. Adoption of Agenda/Programme 6.1 Provisional Agenda/Programme (APRAST/1-WP/1)	Secretariat
1115 - 1200	7. Status of Aviation Safety in Asia Pacific	Secretariat
1200 – 1300	<i>Lunch</i>	
1300 - 1330	8. ICAO Global Aviation Safety Plan	Secretariat
1330 – 1400	9. Regional Performance Framework for Safety 9.1 Regional Performance Framework for Safety (APRAST/1-WP/4) ➤ RASG-APAC/1 Decision 1/2 - Review RASG-APAC/1-WP/6 - Regional Performance Framework for Safety	Secretariat
1400 – 1430	15. Review of COSCAP ARAST Work on Safety Enhancement	COSCAP
1430 – 1500	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1500 – 1530	11. Commercial Aviation Safety Team (CAST) - Update	United States of America
1530 – 1600	12. European Strategic Safety Initiative (ESSI) - Update	European Aviation Safety Agency
1600 – 1630	13. Safety Data from a Manufacturer's Perspective	Boeing
<b><u>Tuesday, 21 February 2012 – DAY TWO</u></b>		
0830 – 0900	5.1 Election – APRAST and Subsidiary Bodies (APRAST/1-WP/3) (contd.)  ➤ Elections for Chairperson, Vice-Chairperson for APRAST-AIG AWG and AP-SRP AWG	Secretariat
0900 – 1000	16. Controlled Flight into Terrain 16.1 Controlled Flight into Terrain (CFIT) (APRAST/1-WP/5)	Secretariat
1000 – 1030	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1030 – 1130	17. Runway Safety 17.1 Runway Safety (APRAST/1-WP/6)	Secretariat
1130 - 1230	<i>Lunch</i>	
1230 – 1330	18. Loss of Control 18.1 Loss of Control (LOC) (APRAST/1-WP/7)	Secretariat

1330 – 1430	<p>Breakout Session (Participants will form 3 Groups)</p> <ul style="list-style-type: none"> <li>• Runway Safety – Conference Hall</li> <li>• LOC – Meeting Room 2</li> <li>• CFIT – Meeting Room 3</li> </ul>	
1430 – 1500	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1500 - 1630	<p>Breakout Session (Participants will form 3 Groups)</p> <ul style="list-style-type: none"> <li>• Runway Safety – Conference Hall</li> <li>• LOC – Meeting Room 2</li> <li>• CFIT – Meeting Room 3</li> </ul>	
<b><u>Wednesday, 22 February 2012 – DAY THREE</u></b>		
0830 - 1000	<p>Breakout Session (Participants will form 3 Groups)</p> <ul style="list-style-type: none"> <li>• Runway Safety – Conference Hall</li> <li>• LOC – Meeting Room 2</li> <li>• CFIT – Meeting Room 3</li> </ul>	
1000 – 1030	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1030 – 1200	<p>Breakout Session (Participants will form 3 Groups)</p> <ul style="list-style-type: none"> <li>• Runway Safety – Conference Hall</li> <li>• LOC – Meeting Room 2</li> <li>• CFIT – Meeting Room 3</li> </ul>	
1200 – 1300	<i>Lunch</i>	
1300 – 1430	<p>Plenary Session (All Groups) – Conference Hall</p> <ul style="list-style-type: none"> <li>• Review Outputs from Breakout Session</li> </ul>	
1430 – 1500	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1500 – 1515	<p>17. Runway Safety</p> <p>17.2 RASG-APAC/1 - Decision 1/5 - Review RASG-APAC/1-WP/21 - Airfield Safety in the United States</p>	United States of America
1515 – 1530	<p>17.3 Runway Incursions-Wrong Runway Departures-SE 182 (APRAST/1-WP/8)</p>	COSCAP-SA
1530 – 1545	<p>23. Industry Presentations</p> <p>23.1 ACI Airport Excellence (APEX) in Safety Programme (APRAST/1-WP/9)</p>	ACI
1545 – 1600	<p>19. RASG-APAC/1 Decision 1/3 - Review RASG-APAC/1-WP/22 – Improving International Validation Programs: Reliance on Data-Driven Requirements</p>	United States of America

1600 – 1615	20. RASG-APAC/1 Decision 1/7 - Review DGCA/48-DP/3/22 – Search and Rescue in New Caledonia and French Polynesia	France
1615 – 1630	21. RASG-APAC/1 Decision 1/6 - Review RASG-APAC/1-WP/20 – Proposed Crewmember and Dispatcher Training Regulations	United States of America
<b><u>Thursday, 23 February 2012 – DAY FOUR</u></b>		
0830 - 0845	22. State Presentations 22.1 The Role of the Government of Japan in Training Pilots (APRAST/1-WP/10)	Japan
0845 – 0915	10. ICAO Integrated Safety Trend Analysis and Reporting System - iSTARS	Secretariat
0915 – 1000	14. Review of State Safety Programme Implementation	Secretariat
1000 – 1030	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1030 – 1045	24. Any Other Business 24.1 Follow-up on RASG-APAC/1 Decision 1/4 - Oversight of Operations Conducted within Foreign States.	Secretariat
1045 – 1200	24.2 Registry of Emerging Issues 24.2.1 System or Component Failure 24.2.2 Turbulence 24.2.3 Others 24.2.4 Unknown 24.2.5 Inflight Fire	
1200 – 1300	<i>Lunch (Venue – Cafeteria)</i>	
1300 – 1400	25. Date and Venue for APRAST/2, APRAST-AIG AWG/1, AP-SRP AWG/1 and Regular Teleconferences	Secretariat
1400 – 1500	26. Adoption of Conclusions and Recommendations	Secretariat
1500 – 1530	<i>Coffee/Tea break (Venue – Cafeteria)</i>	
1530 – 1630	26. Adoption of Conclusions and Recommendations (contd.)	Secretariat

<b><u>Friday, 24 February 2012 – DAY FIVE</u></b>		
0830 – 1000	27. Side Meetings ➤ COSCAP-South Asia : SARAST ➤ COSCAP-South East Asia : SEARAST ➤ COSCAP-North Asia : NARAST ➤ APRAST – AIG AWG ➤ AP – SRP AWG	
1000 – 1030	<i>Coffee break (Venue – Cafeteria)</i>	
1030 – 1200	27. Side Meetings (contd.)	
1200 – 1300	<i>Lunch break (Venue – Cafeteria)</i>	
1300 – 1430	27. Side Meetings (contd.)	
1430 – 1500	<i>Coffee break (Venue – Cafeteria)</i>	
1500 – 1630	27. Side Meetings (contd.)	

— END —

APRAST/1  
Recommendations and Conclusions

Attachment I

**Draft Safety Enhancement Initiatives (SEI) related to CFIT**

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change-ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/CFIT 1	Ground Round Proximity Warning Systems (GPWS) With Forward Looking Feature	12	Amendments 21 and 27 to ICAO Annex 6 Part I; and Amendment 22 to Annex 6 Part II strengthened the requirements for carriage of GPWS and introduced the requirements for aircraft to be equipped with GPWS with forward looking terrain. As of 1 January 2007, all turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5,700 kg or authorized to carry more than nine passengers shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.	SE 1,120	High	TBD	P1-P3	1	CAAS		TAWS is an ICAO Standard
APRAST1/CFIT 2	Standard Operating Procedures	1	ICAO Annex 6 requires an Operations Manual which must contain SOPs for each phase of flight. Further, ICAO Procedures for Air Navigation Services — Aircraft Operations (PANS – OPS) Volume 1 (DOC 8168) contains additional guidance material on the requirements for SOPs to include checklists and crew briefings as an integral part of SOPs	SE 2	High	Easy	P1	1	CAD Hong Kong/ Metrojet		

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change-ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/CFIT 3	Precision-Like Approach Standard Operating Procedures	9	ICAO PANS-OPS (DOC 8168), Volume I, Part I, Section 4, Chapter 1, promotes the use of Constant Decent Final Approach through utilizing a number of techniques.	SE 3,4,5,6,7,8	High	Moderate	P2	1	CASA		
APRAST1/CFIT 4	Flight Data Analysis	9	From 1 January 2005 Annex 6, Part 1 requires operators of aeroplanes of a maximum certificated take-off mass in excess of 27,000 kg. to establish and maintain a flight data analysis programme as part of its accident prevention and flight safety programme. A flight data analysis programme shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.	SE 10	High	Difficult	P3	2	Nepal Airlines		
APRAST1/CFIT 5	Crew Resource Management Training	1	Annex 6 requires air operators to provide training to flight crew on Human Factors principles. The ICAO Human Factors Training Manual (DOC 9683), Part 2 Chapter 2, contains information on Crew Resource Management (CRM) Training.	SE 11	High	Moderate	P2	1	Tentatively KOCA		



APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change-ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/CFIT 6	CFIT/ALAR Training	1	CFIT accidents could be substantially reduced if all air operators and training centers developed CFIT prevention training and procedures to be added to their approved training curriculums, stressing position awareness and escape maneuvers in the event of a terrain warning indication. 2.22 Approach and Landing Accidents could also be reduced if flight crews were properly trained on topics related to stabilized approaches. This training should include: crew resource management, go around criteria, approaches with system malfunctions, non-normal conditions, and emphasis on basic airmanship, approach briefings, approach and missed approach procedures.	SE 12,23	Medium	Moderate	P5	3	Singapore Airlines		
APRAST 1/CFIT 7	ALAR - Policies for ALAR	1	ICAO SARPs in Annex 6, Operations of Aircraft, Part I, require that an operator establish a flight safety documents system for the use and guidance of operational personnel as part of its accident prevention and flight safety programme.	SE 14,15,16	Medium	Moderate	P5	3	Hong Kong CAD		Is there a need to conduct workshop for ALAR Toolkit update (2010) in AP region?

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change-ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/CFIT 8	Minimum Safe Altitude Warning (MSAW)	1	Recognizing that installation of radars and associated MSAW capability provides the necessary levels of terrain avoidance protection to aircraft operations, States are to consider this aspect when determining the justification for installation of new radar equipment. Justification would be strengthened for installation of radar where the CFIT risk is high. ICAO Recommended Practice is that an MSAW feature should be included with radar and ADB equipment. ICAO Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM) provides some guidance on MSAW procedures.	SE 9	High	Moderate	P2	1	To be determined		
APRAST1/CFIT9	Review of existing and emerging technologies for enhanced flight visibility.	12	Refer to FAA AC 90 106 Manufacturers of enhanced flight visibility systems								

APRAST/1  
Recommendations and Conclusions

**Draft Safety Enhancement Initiatives (SEI) related to Runway Safety**

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/RI 1	Runway Incursion - Air traffic Control Training	1	The purpose of the initiative is to review ATC training and determine what programmes could be developed to update training programs and course curriculums designed to improve the level of knowledge, skill and higher proficiency that supports and enhances system efficiency, increasing safety by fostering a higher level of situational awareness.	SE 46, 47	HIGH	Moderate	P5	0	CANSO	Short	Training Requirement 1. ATTS 2. Memory retention 3. R/W safety programme 4. CRM
APRAST1/RI 2	Runway Incursion Standard Operating Procedures – Runway Incursion Prevention and Pilot Training	9	This safety enhancement substantially reduces or eliminates the risk of Runway Incursions (RI) by the incorporation of RI training into flight crew qualification, approved training, and other pilot training programs. This training will increase the pilot's ability to recognize and avoid situations leading to runway incursions. ICAO Runway Incursion Prevention Manual DOC 9870 contains considerable guidance material related to flight crew procedures to reduce the risk of RI and Appendix B contains Best Practices on the Flight Deck.	SE49, 50, 51, 52, 60	HIGH	Moderate	P2	0	COSCAP	Short	COSCAP to review and update all ACs and ABs.

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/RI 3	Enhanced Surface Marking and Lighting	1	Amendment 10-A to Annex 14, Volume I, applicable 19 November 2009 introduced new provisions for enhanced taxiway centre line marking (Para 5.2.8.4), mandatory instruction marking (5.2.16), mandatory instruction sign (no entry) and characteristics of taxiway edge lights (5.3.1 7.7 and 5.3.1 7.8). Updated material on enhanced centre line markings as recommended practices. Additional SARPs are being provided in the recent proposed amendment to Annex 14.	SE-178	High	Moderate	P2	0	APAC Office	Long	EASA volunteered to assist with development of survey format  Survey to be conducted by APAC office
APRAST1/RI 4	Runway Safety Teams	1	The ICAO Manual on the Prevention of Runway Incursions (Doc 9870) provides some guidance on the establishment of Runway Safety Teams. An outcome of the Global Runway Safety Teams is that Runway Safety Teams should be established locally and hosted by the airports. International organizations have committed to work together to compile and promote proven solutions and endorse best practices. ICAO has established a Runway Safety Site and is establishing a Runway Safety Team Portal and tools for use by Runway Safety Teams.	SE-176	High	Easy	P1	0	APAC Office COSCAP PASO AAI	Short	APAC LEI 70% GRSS Outcomes IFALPA and CANSO provide R/W team training on request APAC Office State letter

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/RI 5	Scenario Based Training for Pilots	1	This safety enhancement will reduce Wrong Runway Departures by substantially reducing or eliminating the risk of wrong runway operations through the incorporation of wrong runway operations training into flight crew qualification, approved training, and other pilot training programs. This training will increase the pilot's ability to recognize and avoid situations leading to wrong runway departures.	SE-179	High	Easy	P1	0	IATA	Short	IATA to carry out survey.
APRAST1/RI 6	Scenario Based Training for Tower Controller	1	This safety enhancement will reduce Wrong Runway Departures by providing scenario-based training for controllers highlighting the contributing factors that have led to wrong runway departures. The training would focus on operations in complex airports, airport geometry, communications, taxi/departure clearances, understanding and managing fatigue and time pressures.	SE-179	High	Easy	0	0	-	Short	Combine with RI 1.
APRAST1/RI 7	Taxiway and Runway Configuration	1	Address hazards identified in the Wrong Runway Departure Report relating to airport construction and runway / taxiway location. The purpose of this SE is to determine risk factors associated with airport geometry and complexity. Airports that have multiple runway thresholds in close proximity may be a hazard that could be mitigated by physically moving the runway and / or taxiway.	SE-181	High	Easy	0	0	0	Short	Not relevant to APAC region. Delete

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/RI 8	Air Traffic Control Clearance Procedure Review	0	Evaluate policy and procedures for the issuance of early takeoff clearances that require the crossing of multiple runways before reaching the departure runway. The purpose of this SE is for ATC to conduct a review of the procedures for clearances that specify all runways to be crossed before reaching the departure runway and restrict early takeoff clearances when flight crews must cross multiple runways before reaching the departure runway.	SE-182	High	Easy	0	0	COSCAP	Short	Postpone discussion till paper presented by COSCAP – SA.  Meeting developed Conclusion APRAST 1/15.  APRAST/1-WP/8 referred to ICAO for review and comments.
APRAST1/RE 1	Promote pilot adherence to Standard Operating Procedures for approaches including go-around decision making  Pilot action on the runway	9	Policies and procedures  Risk Assessment and Management  Annex 6	SE	High	Moderate	P2	0	IFALPA		
APRAST1/RE 2	Identify Specific training for pilots and air traffic controllers to avoid unstabilized approaches	9	-	CAST SE	High	Moderate	P2	1	CANSO		Coordinate through collaboration with all stakeholders.

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/RE 3	Develop guidance material and training programmes to create action plans for runway safety teams	9	Reference annex 14, ICAO Doc 9137; IATA; FAA; IFALPA Airport Liaison Programme  Euro Control study on Runway Excursions	CAST SE176, 178, 179, 180, 181, 182, 183	High	Easy	PI	3	ACI		ICAO Global and Regional Runway Safety Initiatives.  FSF Initiatives.
APRAST1/RE 4	Promote PBN implementation and Approaches with vertical guidance	12	PBN Manual; ICAO Doc 9613		High	Moderate	P2	0	APAC Office		Focus on vertical guidance.
APRAST1/RE 5	Promote /monitor Implementation RESA including other means such as arresting systems (where possible)	12	Annex 14		High	Difficult	P 3	0	APAC Office		
APRAST1/RE 6	Timely and accurate notification about runway conditions by AIS and ATS	1		Policies and Procedures – process to inform Personnel / fight crew	High	Moderate	P2	2	AAI		Lack of harmonized process of measuring.  Adhere only to ICAO form of identification.
APRAST1/RE 7	Improve runway conditions in accordance with annex 14	1	Annex 14								Details to be determined.

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/ RE 8	Implement risk management measures taking into consideration the ones contained in ALAR	7	Doc 9859 ALAR Toolkit	Policies and Procedures- Policies - Fight crew Proficiency Program							Details to be determined.
APRAST1/ RE 9	Guidance in maintaining runway in accordance with Annex 14	1	Annex 14; Doc 9137  Can combine with RE 7	Policies and Procedures – SOP – one project							Details to be determined.
APRAST1/ RE 10	Specific training for Aerodrome personnel Regarding maintenance and operations of the runway	9									Details to be determined.

Note: RE2 and RE 6 are priority 1 SEIs  
The runway safety sub-group recommends the formation of Runway Excursion ad hoc Working Group.



APRAST/1  
Recommendations and Conclusions

**Draft Safety Enhancement Initiatives (SEI) related to Loss of Control**

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/ LOC 1	LOC SOPS (Standard Operating Procedures)	9	Air operators should publish and enforce clear, concise, and accurate flight crew standard operating procedures (SOP). These procedures should include procedures in normal and non-normal operations during pre/post flight and all phases of flight i.e.: checklists, simulator training, PF/PNF duties, transfer of control, automation operation, rushed and/or unstabilized approaches, rejected landings and missed approaches, in-flight pilot icing reporting, and flight crew coordination. Operator instructors and check pilots should ensure these SOP's are trained to proficiency. The establishment, maintenance, and appropriate use of flight crew SOP's will reduce the risk of LOC accidents.	SE 26	Medium	Easy	P4				
APRAST1/ LOC 2	Risk Assessment and Management		This Safety Enhancement was developed by the FAA CAST process in 2003, and when reviewed by COSCAP ARAST in 2009 it was decided that this initiative has been overtaken by the introduction of SMS requirements.	SE 27	High	Moderate	P2				
APRAST1/ LOC 3	Safety Information	7	ICAO SARPs in Annex 6, Operations of Aircraft, Part I, require that an operator establish a flight safety documents system for the use and guidance of operational personnel as part of its Safety Management System (SMS).	SE 28	High	Moderate	P2				

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/ LOC 4	Flight Crew Proficiency	11	From 1 January 2005 Annex 6, Part 1 requires operators of aeroplanes of a maximum certificated take-off mass in excess of 27,000 kg. to establish and maintain a flight data analysis programme as part of its Safety Management System. A flight data analysis programme shall be non-punitive and contain adequate safeguards to protect the source(s) of the data. Operators should ensure their training and qualification processes utilize trend information from Safety Management Systems (SMS) especially Flight Data Analysis (FDA) to mitigate risk that could lead to a LOC incident.	SE 29	Medium	Moderate	P5				
APRAST1/ LOC 5	Human Factors and Automation	9	Mode Awareness and Energy State Management constitutes an issue that has been involved in a number of accidents over the years.	SE 30	Low	Easy	P7				
APRAST1/ LOC 6	Loss of Control Training	12	Advanced Maneuvers Training (AMT) refers to training to prevent and recover from hazardous flight conditions outside of the normal flight envelope. Additionally, research should be conducted to determine how existing flight simulation devices may be used effectively in AMT.	SE 31	High	Moderate	P2				
APRAST1/ LOC 7	Hazard Identification, and risk assessment and management		Implementation of safety management practices into operational processes & decision making	SE27	High	Moderate	P2		AAPA		
APRAST1/ LOC 8	Loss of control training	12	AMT: recognition and prevention .... LOC	SE 31	High	Moderate	P2				
APRAST1/ LOC 9	Loss of control training	12	AMT: recognition and recovery from LOC	SE 31	Medium	Difficult	P6				

APRAST/1  
Recommendations and Conclusions

APRAST No.	Safety Enhancement Action	GSI	Reference	CAST SE	Safety Impact	Change ability	Indicator	Priority	Champion	Time Frame	Notes
APRAST1/ LOC 10	knowledge and Awareness (mode and energy)	9	Mode Awareness and Energy State Management constitutes an issue that has been involved in a number of accidents over the years.	SE 30	Medium	Moderate	P5				
APRAST1/ LOC 11	Human factors	9	Communications related to mode and energy	SE 30	High	Moderate	P2				
APRAST1/ LOC 12	Design		Mode Awareness and Energy State Management constitutes an issue that has been involved in a number of accidents over the years	SE 30	High	Difficult	P3				
APRAST1/ LOC 13	Loss of Control: Data Sharing		BASIS / ASAIS-like data collection, analysis and sharing		High	Difficult	P3				

— END —