



Records of Discussions
of the
2nd Meeting of the Asian Regional Aviation Safety Team
Bangkok, Thailand
15 to 19 June 2009

1 Introduction

Four related meetings were held over the course of the week:

- Part I: 2nd Meeting of the Maintenance component of the ARAST
- Part II: 1st Global Aviation Safety Plan/Roadmap (GASP/R) Component of the ARAST
- Part III: 2nd Meeting of the Flight Operations and Air Traffic Management Component of the ARAST
- Part IV: Separate Meetings of the Asia Regional Aviation Safety Teams (SARAST, SEARAST, NARAST)

2 Venue

The meetings were held at the Asia Pacific ICAO Regional Office, Bangkok Thailand.

Part I: 2nd Meeting of the Maintenance ARAST

3 Present

The 2nd Meeting of the Maintenance Component of the Asia Regional Aviation Safety Team (ARAST-M) was attended by representatives from the Civil Aviation Authorities, Air Navigation Service Providers and Airlines of the participating Member Administrations of COSCAP-NA, COSCAP-SEA and COSCAP-SA, relevant International / Regional Experts attached to the Programmes including Programme Coordinators, representatives from ICAO, FAA, AAPA, Airbus and Boeing. There were a total of 87 participants. The list of participants is attached as Annex V.

4 Proceedings of the Meeting

With the concurrence of the PC COSCAP-SA and CTA COSCAP-SEA, the CTA COSCAP-NA kindly facilitated the meeting, and it progressed in accordance with the Agenda with slight adjustments to the order. A copy of the Agenda (Programme) is included at Annex I.

5 Introductions

The participants of the meeting introduced themselves.

6 Presentations

A number of presentations were made by various organizations as outlined below and ARAST expressed its gratitude and thanked all the presenters.

6.1 Regional Aviation Safety Team – Terms of Reference

CTA COSCAP-NA presented an overview of the current terms of reference for the three Asian COSCAPs. The terms of reference for each of the three safety teams were revised by their respective Steering Committees during 2008 / 2009 to more tightly link the work of the safety teams to the metrics and best practices of the Global Aviation Safety Plan and Global Aviation Safety Roadmap (GASP/R).

Further information regarding the GASP/R was provided the following day, and is recorded under Part II of this record.

6.2 Risk – What is Critical

Ms. Ann Azevedo, FAA, provided a presentation regarding how critical parts and locations on the airplane and engine are identified, and as well as critical maintenance tasks. Critical parts and procedures must be identified in the appropriate documentation. Parts must be marked and serialized to indicate that they are subject to required procedures or limitations. Advisory material has been developed to help the manufacturer to assess critical parts and critical structural locations. This guidance helps the manufacturer decide which parts must be identified as critical, and what information about critical maintenance activity must be provided to the operators. It also indicates that certain components and locations should be identified as critical. Maintenance requirements and the MSG-3 and MRB process have also been discussed. The presentation further indicates that maintenance-critical items not only put passengers and crew at risk, but maintenance workers as well.

6.3 Overview of Commercial Aviation Safety Team (CAST)

Mr. Kyle Olsen, FAA, presented an overview of the CAST. The Regional Aviation Safety Teams (RASTs) are closely linked to the Commercial Aviation Safety Team (CAST) and so they benefit from a broad base of experts from government agencies, airlines, manufacturers, aviation associations, labour unions, and other safety-related organizations. Coordination with the CAST safety efforts has reduced duplication and improved alignment within the region.

After completing a rigorous analysis of accidents worldwide, CAST identified and categorized factors contributing to the cause of these accidents, assigned priorities for the purpose of pursuing remedial actions and developed and prioritized specific Safety Enhancements (SE) and implementation plans. Once these SE's are implemented the risk of an accident or serious incident is greatly reduced.

The majority of issues emanating from CAST/RAST are focused on Flight Operations (70%), followed by ATM (15%) and then Airworthiness (less than 8%). The majority of risk reduction was to be achieved by the Safety Enhancements developed in the area of flight operations. Therefore, the RASTs initially focused on safety enhancements related to Flight Operations and subsequently expanded to include ATM issues as linkages between Flight Operations and ATM issues were identified (e.g., Runway Incursion). While the three COSCAP programmes originally convened separate RAST meetings, they were conducted consecutively to facilitate donor participation. As the RASTs matured and to better share best practices, the three COSCAP RASTs were combined in the November 2008 meeting, to form an Asia Regional Aviation Safety Team (ARAST).

7 **Identification of Maintenance Factors by CAST**

Capt. Hank Reed, Boeing Company, presented specific information from the CAST Joint Safety Implementation Team (JIMDAT). This included the identification of specific accidents where maintenance factors were involved, and the safety enhancements (SEs) that were identified by the JIMDAT.

After review of SEs 17, 18, 19, 20, 169R1, 170R1, 172R1 and 175R1, the following proposed actions were identified.

7.1 **SE-17, Aircraft components are serviced in accordance with the original manufacturers recommended methods from cold weather operation.**

Proposed Action:

M09.01: NO ACTION REQUIRED

Member administrations decided this SE is not applicable in Asia

Status: Closed

7.2 **SE-18, Evaluation and Surveillance of Sub-Contractor maintenance Providers.**

Proposed Action:

M09.02: COSCAPs to provide a draft Advisory Circular for consideration by Member Administrations/States.

Status: OPEN

7.3 **SE-19, Policy regarding the use of Minimum Equipment List (MEL)**

Proposed Action:

M09.03: COSCAPs to provide guidance and training material to Member Administration/States and COSCAP administrations to determine if additional support is required.

Status: OPEN

7.4 **SE-20, Directors of Safety will determine deficiencies and Quality Control Procedures outlined in SE -18 and SE-19 are addressed**

Proposed Action:

M09.04: MRAST to reconsider this matter after completion of the work related to SE-18 and SE-19 to determine if additional guidance material is required.

Status: OPEN

7.5 **SE-169R1, Policy & Procedures related to Work Cards and Shift Changes**

Proposed Action:

M09.05: COSCAP to develop a draft Advisory Circular for consideration by Member Administrations/States to heighten the awareness and risk.

Status: OPEN

7.6 SE-170R1, OEM Continuous Monitoring of Service History

Proposed Action:

M09.06: COSCAP to gather information from ICAO related to USOAP data results (related protocol questions) and share that with Member Administrations/States.

Status: OPEN

7.7 SE-172R1 Gap Analysis of Existing Airplane Maintenance Process & Follow-up Action Plan. Related to MSG analysis and MRB report, etc.

Proposed Action:

M09.07: COSCAP will support China, as a State of manufacture, related to the MSG analysis and MRB processes.

Status: OPEN

7.8 SE-175R1 Policy and Procedures – Flight Critical Configurations Changes Made During Maintenance

Proposed Action:

M09.08: COSCAPs to provide draft guidance material to Member Administrations/States for their review on best practices that could be followed to ensure that appropriate measures are in place to prevent such occurrences.

Status: OPEN

8 Review - Regional Airworthiness Safety Issues

Members did not identify any Regional Safety Issues for review by the Maintenance ARAST.

9 Proposed Actions / Close of Meeting

The Proposed Actions arrived at on various Safety Enhancements were reviewed and further inputs solicited. All Proposed Actions were accepted and the Maintenance ARAST Team requested that they be presented to the respective COSCAP Steering Committees at their next meeting.

10 Next Meeting

The next meeting of the Maintenance ARAST will be held in conjunction with the overall ARAST in early 2010, at a date to be confirmed.

Part II: 1st Global Aviation Safety Plan/Roadmap (GASP/R) Component of the ARAST

1 Present

The Global Aviation Safety Plan/Roadmap (GASP/R) component of the 2nd Meeting of ARAST was attended by representatives from the Civil Aviation Authorities, Air Navigation Service Providers and Airlines of the participating Member Administrations of COSCAP-NA, COSCAP-SEA and COSCAP-SA, relevant International / Regional Experts attached to the Programmes including Programme Coordinators, representatives from ICAO, FAA, IATA, AAPA, Airbus, Boeing and the Air Transportation Safety Bureau of Australia. There were a total of 102 participants from 14 states and 17 air operators. The list of participants is attached as Annex V.

2 Proceedings of the Meeting

With the concurrence of the Programme Coordinator COSCAP-SA and Chief Technical Advisor COSCAP-NA, the CTA COSCAP-SEA kindly facilitated the meeting, and it progressed in accordance with the Agenda with slight adjustments to the order. A copy of the Agenda (Programme) is included at Annex II.

3 Introductions

The participants introduced themselves.

4 Presentations

A number of presentations were made by various organizations as outlined below. The ARAST expressed its gratitude and thanked all the presenters.

4.1 Introduction to Global Aviation Safety Plan and Global Aviation Safety Roadmap (GASP/R)

CTA COSCAP-SEA presented on the relationship of the Global Aviation Safety Plan and Global Aviation Safety Roadmap, and reviewed their importance to the work of the ARAST. The Global Aviation Safety Roadmap prepared by the Industry Safety Strategy Group (ISSG) in close cooperation with ICAO is the basis from which the Global Aviation Safety Plan was developed. The roadmap recognizes that all stakeholders of the aviation system need to be involved and clearly identifies the roles played by the regulatory and industry elements while emphasizing their complementary nature promotes a proactive approach to safety and provides a means to ensure that safety initiatives throughout the world deliver improved safety by the coordination of efforts, thus reducing inconsistency and duplication.

The roadmap is based upon high-level principles that have been accepted by all aviation stakeholders as vital to the enhancement of safety levels within global commercial aviation. It was not developed to replace data-driven regional initiatives such as the United States Commercial Aviation Safety Team (CAST), Europe's ESSI (European Safety Strategy Initiative) or the Pan-American Aviation Safety Team Initiative (PAAST). Rather, it builds on these valuable programmes, highlighting key areas that governments and industry must act on. Above all, it tackles those areas that currently are not effectively addressed.

4.2 USOAP Data Analysis Report

Capt. Fareed Ali Shah, ICAO Regional Safety Officer, presented information extracted from the ICAO Comprehensive Systems Audit Report. This information served to inform participants of those areas found by the ICAO audit programme to be generally not satisfactory in many

States. This information would be of particular value during the review of the metrics and best practices of the GASP/R.

4.3 GASP / Global Safety Initiative (GSI) Review

CTA COSCAP-SEA introduced the GASP/R Workbook, and described the process that would be used to review the metrics in order to identify recommended actions related to the GASP best practices. Since the three safety teams have been in existence for some years the enablers, risks, gaps and maturity level within the States are generally known. Also since there is an existing safety plan, the impact and changeability of the recommended actions related to the Roadmap best practices was integrated into the current work plan. GASP/R process will be used as new issues are examined.

Global Safety Initiative (GSI) 1 through 5 of the GASP/R have a primary focus on government and GSI focus areas 6 through 12 have a primary focus related to the aviation industry. A process needs to be defined that has stronger industry participation and to commence work in GSI-6 to GSI-12. Discussions regarding this have been undertaken with ISSG members.

Almost all the activities of the COSCAP programme are linked to a GASP Global Safety Initiative. However, this report will document the progress being made within Asia to implement the best practices and metrics defined in GSI 1 through GSI-5 of the GASP/R.

4.4 The Singapore Confidential Aviation Incident Reporting Programme (SINCAIR)

Mr. Chan Wing Keong, Director Singapore Accident Investigation Board, provided an overview of Singapore's confidential reporting system. This emphasized the complementary nature of a confidential reporting system along with State mandatory reporting systems and company reporting systems. The presentation stressed the importance of non-punitive reporting provisions so as to encourage open reporting of all safety-related information without fear of recrimination.

Participants demonstrated a keen interest in this system through questions and discussion. This presentation and the ensuing discussions were valuable to support review of GSI-3 and GSI-4 as noted later in this report.

5 GASP-Global Safety Initiative (GSI) Review

CTA COSCAP-SEA led a review of focus areas GSI-1 to GSI-5, with the following proposed actions identified by GASP/R best practice number.

5.1 BP 1a-2 – States takes all necessary actions to ensure compliance with SARPs and industry best practice.

Republic of Korea has developed and made available the SARPs Management Information System (SMIS) to support the need to track implementation.

Proposed Action:

G09.01: COSCAP to request ROK to provide SMIS workshop

G09.02: States to continue their efforts as necessary to comply in this area.

5.2 BP 1a-4 States apply coordinated initiatives to ensure that non-compliant States do not engage in activity which could be seen as unacceptably increasing the risk of operation

Initiatives:

1. COSCAPs have developed the following related material:
 - a. COSCAP Foreign Air Operator (FAO) Validation and Surveillance Course
 - b. COSCAP model rules and procedures manual for FAO Validation and Surveillance

Proposed Action:

- G09.03: States to implement Annex 6, amendment 32 regarding Foreign Air operators by revision to regulations, procedures and guidance material
- G09.04: COSCAP Foreign Air Operator Validation and Surveillance Course to be delivered on request.
- G09.05: COSCAP to continue to monitor and support effective implementation of the requirements

5.3 BP 2a-3 – State applies the principles of risk management to its safety related activities.

Proposed Action:

- G09.06: States to implement a State Safety Programme (SSP), including the requirement for Safety Management Systems (SMS) implementation by service providers.
- G09.07: COSCAPs to support SSP development and SMS implementation through provision of training courses
- G09.08: COSCAPs to assist States through the development of generic models and guidance.

5.4 BP 3a-3 – The State encourages voluntary reporting.

Proposed Action:

- G09.09: AIG / Reporting sub-team to examine requirements and procedures and best practices for the establishment of effective voluntary reporting.
- G09.10: Singapore AAIB kindly offered to support this initiative

5.5 BP 3a-4 – Each aviation professional who has an impact on safety has a clear understanding of what constitutes acceptable and unacceptable behavior.

Proposed Action:

- G09.11 CTA North Asia to develop guidance to supplement ICAO material related to GSI-3a-4.

5.6 Global Safety Initiative 3 – Impediments to Reporting of Errors and Incidents

Global Safety Initiative 4 – Ineffective Incident and Accident Investigation General Summary,

Proposed Action:

- G09.12: COSCAP to develop terms of reference (ToR) for AIG / Reporting sub-team as part of the ARAST ToR.
- G09.13: COSCAPs to form AIG /Reporting sub-team as part of ARAST
- G09.14: Model AIG rules and model manual to be sent to the Sub-team for detailed review to verify against best practices / metrics of Roadmap
- G09.15: COSCAPs to follow up with ICAO South America region for models
- G09.16: Sub-team meeting proposed tentatively in November 2009, at Regional Office, under ICAO RO invitation.
- G09.17: Sub-team to continue analysis of GSI-3 and GSI-4 and report to ARAST
- G09.18: Singapore AAIB kindly agreed to provide strong support to the AIG / Reporting sub-team.
- G09.19: AIG / Reporting sub-team to report back to the ARAST.

5.7 BP 5a-1 – COSCAPs encourage implementation of best practices consistent with Roadmap Focus Areas for their region.

A need was identified for a best practices website to facilitate sharing information that is being developed by the various GASP Implementation Teams. Items would include the office of primary interest (OPI) for each posted topic. While COSCAPs in Asia Pacific share best practices and conduct many functions jointly, the Institutional Framework and Administrative Procedures Manual should be amended to formalize these practices.

Proposed action:

- G09.20: ICAO (Mitch Fox) kindly requested to pursue global coordination with ICAO Contracting States.
- G09.21: COSCAPs to develop specific policies addressing coordination with Asian COSCAPs and ICAO Regional Office, for the approval of their Steering Committee.

5.8 BP 5a-2 – Existing regional airline, government, regulatory, and safety associations coordinate their safety-related efforts to reduce duplication and improve alignment in the region. Additional regional associations formed as needed.

Discussion centered on ensuring that all stakeholders were afforded the opportunity to participate in the sharing of safety information through the safety team work. This would include States and Administrations of the ICAO Asia-Pacific Region beyond those belonging to the three COSCAP programmes (e.g., Japan, Australia, PASO). It was noted that the existing Terms of Reference for the safety teams permit the invitation of additional participants as necessary for the subjects under discussion.

Proposed action:

G09.22: ICAO Regional Office requested to invite all States to participate in Safety Team Meetings

5.9 BP 5a-3 – The more advanced regions assist the less advanced regions in acquiring the necessary knowledge and experience.

Discussions highlighted that there are initiatives within the APEC group which may also support and assist RAST initiatives.

Proposed action:

G09.23: COSCAP to establish linkages with APEC avoid duplication of effort.

6 Conclusion / Close of Meeting

The proposed actions regarding the GSIs were reviewed and further inputs solicited. All Proposed Actions were accepted and the ARAST requested that they be presented to the respective COSCAP Steering Committees at their next meeting

7 Next Meeting

The next meeting of the GASP/R ARAST will be held in conjunction with the overall ARAST in early 2010, at a date to be confirmed.

Part III: 2nd Meeting of the Flight Operations and Air Traffic Management Component of the ARAST

1 Present

The 2nd Meeting of the Flight Operations and Air Traffic Management component of the of ARAST was attended by representatives from the Civil Aviation Authorities, Air Navigation Service Providers and Airlines of the participating Member Administrations of COSCAP-NA, COSCAP-SEA and COSCAP-SA, relevant International / Regional Experts attached to the Programmes including Programme Coordinators, representatives from ICAO, FAA, IATA, Airbus and Boeing. There were a total of 92 participants. The list of participants is attached as Annex V.

2 Proceedings of the Meeting

With the concurrence of the PC COSCAP-SA and CTA COSCAP-SEA, the CTA COSCAP-NA kindly facilitated the meeting, and it progressed in accordance with the Agenda with slight adjustments to the order. A copy of the Agenda (Programme) is placed at Annex III.

3 Introductions

The participants introduced themselves.

4 Presentations

A number of presentations were made by various organizations as outlined below and ARAST expressed its gratitude and thanked all the presenters.

4.1 Update on Commercial Aviation Safety Team (CAST)

Mr. Kyle Olsen, FAA, presented an update of the CAST, including the current status of CAST Safety Enhancement (SE) implementation (78 SEs total; 48 SEs complete; 22 SEs in progress). The presentation focused on the measurement of CAST Safety Enhancements using Flight Operations Quality Assurance (FOQA) data, with particular reference to approach and landing accident reduction.

Mr. Olsen also provided a summary of safety enhancement implementation for COSCAP-SA, COSCAP-SEA and COSCAP-NA (40 SEs in progress), and an overview of international safety meetings. The presentation shared information from the Flight Operations and Maintenance InfoShare meetings held in March 2009 at American Airlines in Dallas, USA. Safety items identified for further consideration include rejected take offs, unstable approaches, the use of speed brakes on arrival, the effect of ATC procedures on stable approaches, altitude excursions and pilot response to TCAS resolution advisories.

4.2 ESSI Update

Capt. Gerard Guyot, Airbus, provided an update on the European Strategic Safety Initiative's Commercial Aviation Safety Team (ECAST), a ten year program commenced in 2006 for the purpose of improving aviation safety in Europe and for the European citizen worldwide. The ECAST operates as a partnership of industry and governments, with more than 150 organizations. Working consistently with the Global Aviation Safety Plan and Roadmap, the ECAST has several level 1 subjects: Cargo, Icing, Maintenance/Systems, Mid Air, Turbulence and Runway incursion.

ECAST Action Plans (AP) are implemented on a voluntary basis, although some of the APs may target rulemaking, standards and research. The top three ECAST priorities for 2008 – 2009 are

Ground Safety, Runway Safety and SMS & Safety Culture. Eurocontrol's Skybrary [<http://www.skybrary.aero/landingpage/>] provides safety support materials in these and other areas.

Capt. Guyot commented favorably on the work of the ARAST, with particular reference to the draft Advisory Circular on the importance of *Mode Awareness and Energy State Management Aspects of Flight Deck Automation*.

4.3 Minimum Safe Altitude Warning (MSAW)

Capt Zahid H. Khan, COSCAP-SEA, provided a presentation on Minimum Safe Altitude Warning (MSAW) in response to a discussion at the 1st ARAST meeting in 2008. This presentation provided an overview of the history of MSAW, and the related ICAO provisions.

The presentation emphasized that MSAW is one of many factors that can contribute to a reduction in CFIT accidents. Relative to the GASP/R, the implementation of MSAW is addressed under Focus Area 12 – Gaps in use of Technology to Enhance Safety. MSAW and MSAW training is also supported by COSCAP Advisory Bulletin (AB-013) *Issuance of Safety Alert / Warning (ATC)*.

4.4 Safety Challenges and Opportunities for COSCAP Regional Safety Teams from Manufacturer's Perspective

Capt. Gerard Guyot, Airbus and Capt. Hank Reed, Boeing jointly made a presentation regarding the safety challenges and opportunities facing the COSCAPs. Despite the advances in technology, techniques and understanding, accidents continue to occur and all stakeholders must strive to identify improvements. Of particular interest is the observation of regional differences in accident rates, and some possible factors that may be related to this. They recommended that the COSCAPs should consider carefully such information in order to identify relevant safety enhancements for the Asia region. In all cases, it is crucial to prepare specific plans and safety improvement goals.

4.5 FAA Runway Safety Seminar

Action from 1st ARAST in 2009: The FAA kindly delivered a runway safety seminar in Bangkok 7 to 9 April 2009.

Capt. Glenn Michael, FAA, presented a summary of the conclusions of the seminar which emphasized that runway safety is broader than runway incursions, that teamwork is vital to improving runway safety, and that the use of SMS by all parties will be instrumental in supporting improvements. Human factors are involved with both the problems and the solutions, and education and awareness are effective improvement tools. In supporting improvements all organizations must require, encourage and support behaviours related to open reporting, and the establishment of blame-free culture.

The seminar identified additional topics for a future seminar:

- Post-Accident response (ARFF – newer generation aircraft) and general topic of Emergency response;
- Runway Excursion – discuss prevention;
- Show V/PD simulations – animations;
- How to develop SMS for Vehicle/Ground movements;
- Size/Complexity of RSAT, setting up procedures ; and,
- Technology available, especially low or no cost.

Proposed action:

- O09.01: COSCAP to request that the FAA provide a runway safety programme for 2010 following up on the 2009 seminar.

4.6 Ground Operations – Runway Safety Initiative

Capt. Glenn Michael, FAA, presented information from the CAST and the Flight Safety Foundation (FSF) work on runway safety. The research identified three runway safety issues: Runway Incursions, Runway Excursions, and Runway Confusion. There have been numerous runway related accidents in 2007 and 2008, with runway excursions being the most prevalent and serious in terms of fatalities.

A key factor to avoid a runway excursion is a stable approach, and airlines, flight crews, ATC and airport operators must contribute to supporting stable approaches. The FSF is expanding the Approach and Landing Accident Reduction (ALAR) Tool Kit to focus in this area, and a safety seminar is being prepared.

Proposed action:

- O09.02: COSCAPs are to seek Excursion prevention material from the FSF
- O09.03: COSCAPs are to seek Excursion prevention workshop from FSF
- O09.04: FAA will kindly inform COSCAPs of safety enhancement work in this area.

4.7 CAST TAWS – EGPWS Study

Capt. Glenn Michael, FAA, shared information from the CAST study of CFIT accidents, and the importance of TAWS-EGPWS in preventing such accidents. The latest information from the FAA supports the importance of addressing TAWS-EGPWS software and GPS capabilities as addressed by Advisory Bulletin *AB019* and Advisory Circular *AC019* issued by the COSCAPs in 2008.

The FAA is conducting a study of TAWS.

Proposed action:

- O09.05: COSCAP will distribute the TAWS report to COSCAP Member States and Administrations when available
- O09.06: FAA will brief future meetings on the findings of the TAWS study.

4.8 CAST TCAS (Traffic Alert and Collision Avoidance System) – ACAS (Airborne Collision Avoidance System) study.

Capt. Glenn Michael, FAA, shared information from the CAST study using extensive data and the computer tools available in the Aviation Safety Information Analysis and Sharing (ASIAS) system to study the TCAS RA landscape throughout the US airspace system. TCAS RA event rates experienced by both US and international carriers will be measured. Once the CAST study is completed the results will be shared with the ARAST.

Action proposed:

- O09.07: FAA to brief future meetings on the status and findings of the study.

- O09.08: COSCAP to distribute the TCAS report to Member States and Administrations when it is available.

4.9 Asia Pacific Flight Procedure Programme -- Overview

Capt. Fareed Ali Shah, ICAO Regional Flight Safety Officer, provided a briefing regarding the establishment of the ICAO Flight Procedure Programme Office in Beijing, China. This is anticipated to be established in late 2009.

Proposed action:

- O09.09: Member States and Administrations to review participation in the FPP as set out in the draft programme document to be provided under a State Letter due by the end of June 2009.
- O09.10: COSCAPs to produce a PBN Operational Approval Manual and related training programme.
- O09.11: COSCAPs to keep Member States and Administrations informed of the status of PBN developments in the Region.

5 Review of Safety Enhancements

As discussed before, the Regional Aviation Safety Teams (RASTs) are closely linked to the Commercial Aviation Safety Team (CAST) and so they benefit from a broad base of experts from government agencies, airlines, manufacturers, aviation associations, labour unions, and other safety-related organizations. Coordination with the CAST safety efforts has reduced duplication and improved alignment within the region.

After completing a rigorous analysis of accidents worldwide, CAST identified and categorized factors contributing to the cause of these accidents, assigned priorities for the purpose of pursuing remedial actions and developed and prioritized specific Safety Enhancements (SE) and implementation plans. Once these SE's are implemented the risk of an accident or serious incident is greatly reduced.

The following CAST/ARAST issues are focused on Flight Operations and ATM. While the three COSCAP programmes originally convened separate RAST meetings, they were conducted consecutively to facilitate donor participation. As the RASTs matured and to better share best practices, the three COSCAP RASTs were combined in the November 2008 meeting, to form an Asia Regional Aviation Safety Team (ARAST).

The following CAST Safety Enhancements, which were introduced during prior meetings, were reviewed by the ARAST and actions, as indicated below were taken.

5.1 SE 30 – ACTION: Mode Awareness

Action from 1st ARAST in 2008: The COSCAPs developed a draft Advisory Circular *Mode Awareness and Energy State Management Aspects of Flight Deck Automation* and provided it to Members for consideration.

Proposed action:

- O09.12: Member States and Administrations to provide comments to their COSCAP by 30 July 2009.
- O09.13: COSCAPs to review comments, prepare final AC and distribute for members use.

O09.14: Member States and Administrations to consider final AC for implementation.

6 Regional Aviation Safety Issues

A concern was raised regarding air-ground communications in the region.

Proposed action:

O09.15: COSCAP will inform ICAO Regional Office and request that the issue be raised with the APANPIRG.

O09.16: AAPA will advise COSCAP-SEA if there is any additional information by July 15th.

O09.17: COSCAPs to follow up as necessary to determine that the safety concern has been addressed.

7 Conclusion / Close of Meeting

The Actions arrived at on various subjects discussed at the meeting were reviewed and further inputs solicited. All conclusions were accepted and the ARAST Team requested that they be presented to the three COSCAP Steering Committees at their next meetings.

8 Next Meeting

The next meeting of the GASP/R ARAST will be held in conjunction with the overall ARAST in early 2010, at a date to be confirmed.

Part IV: Meetings of Asia Regional Aviation Safety Teams

1 Proceedings of the Meetings

Each regional aviation safety team (SARAST, SEARAST, and NARAST) held separate meetings to discuss their individual needs and status related to prior action items. Each safety team agreed to follow the same general agenda. A copy of the Agenda (Programme) is placed at Annex IV.

The records for each meeting the COSCAP-SA, COSCAP-SEA and COSCAP-NA Regional Aviation Safety Teams are prepared as separate documents.

2 Next Meeting

The next meetings of the SARAST, SEARAST, and NARAST will be held in conjunction with the overall ARAST in early 2010, at a date to be confirmed.

**2nd Meeting of the Maintenance Component of the
Regional Aviation Safety Team
(Maintenance ARAST)
Bangkok, Thailand. 15 June 2009
Programme**

Monday : 15 June 2009

0800 – 0830	1. Registration
0830 – 0845	2. Opening remarks
0845 – 0900	3. Self-introduction of Participants
0900 – 0920	4. Presentation: Regional Aviation Safety Team – Terms of Reference – COSCAP
0920 -- 1000	5. Presentation: Risk – What is Critical – FAA
1000 – 1030	Tea break
1030 – 1100	6. Presentation : Overview of Commercial Aviation Safety Team (CAST) - FAA
1100 – 1200	7. Review – CAST Safety Interventions 18,19,20, 169, 170, 175
1200 – 1300	Lunch
1300 – 1500	8. Review – CAST Safety Interventions 18,19,20, 169, 170, 175
1500 – 1530	Tea Break
1530 – 1600	8. Review - Regional Airworthiness Safety Issues
1600 – 1630	9. Conclusions / Close of the Meeting

**1st Meeting of the
Global Aviation Safety Plan/Roadmap (GASP/R) Component
Regional Aviation Safety Team
Bangkok, Thailand. 16, 17 June 2009
Programme**

Tuesday 16 June 2009

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|----------------------|---|
| 08:15 – 08:30 | 1. Registration |
| 08:30 – 08:45 | 2. Opening remarks and welcome |
| 08:45 – 09:00 | 3. Self-introduction of participants and adoption of the agenda |
| 09:00 – 10:15 | 4. Introduction to GASP/R |
| 10:15 – 10:45 | Tea Break |
| 10:45 – 11:15 | 5. Relationship of RAST to GASP/R |
| 11:15 – 12:00 | 6. RAST Process for implementation of GASP/R |
| 12:00 – 13:00 | Lunch |
| 13:00 – 14:00 | 7. USOAP Data Analysis |
| 14:00 – 15:00 | 8. GASP/R Global Safety Initiative (GSI/) Review |
| 15:00 – 15:30 | Tea Break |
| 15:30 – 16:30 | 8. (Cont) GASP GSI Review |

Wednesday 17 June 2009

08:00 – 10:00 9. (Cont) GAST GSI Review

10:00 – 10:30 Tea Break

10:30 – 12:00 9. (Cont) GAST GSI Review

12:00 – 13:00 Lunch

13:00 – 14:00 9. (Cont) GAST GSI Review

14:00 – 14:30 Tea Break

14:30 – 15:30 10. Review of Conclusions

15:30 – 16:00 11. Close of the Meeting

**2nd Meeting of the Flight Operations and Air Traffic Management Component
Regional Aviation Safety Team
18 June 2009 – Bangkok, Thailand**

Programme

Thursday 18 June 2009

08:15 – 08:30	1. Registration
08:30 – 08:45	2. Opening remarks and welcome
08:45 – 09:00	3. Self-introduction of participants and adoption of the agenda
09:00 – 09:45	4. CAST update
09:45 – 10:15	5. ESSI update
10:15 – 10:45	Tea Break
10:45 – 11:15	6. SE-184 - Validation of Minimum Vectoring Altitudes (MVA)
11:15 - 12:00	7. Review of Safety Enhancements
12:00 – 13:00	Lunch
13:00 – 14:00	7. Review of Safety Enhancements
14:00 – 14:45	8. Regional Aviation Safety Issues
14:45 – 15:15	Tea Break
15:15 – 15:45	8. Review of Conclusions
15:45 – 16:00	9. Close of the Meeting

**South Asia, South East Asia and North Asia Regional Aviation Safety Teams –
Separate meetings of SARAST, SEARAST and NARSAST Component**

19 June 2009 – Bangkok, Thailand

Programme

Friday 19 2009

NARAST, SARAST and SEARAST to meet in separate rooms

08:00 – 10:30	1. Review of the Implementation of appropriate COSCAP Steering Committee Conclusions Concerning the individual RAST (Status Report)
10:30 – 11:00	Tea Break
11:00 – 12:00	2. Review of the Implementation of appropriate COSCAP Steering Committee Conclusions Concerning the individual RAST (Status Report)
12:00 – 13:00	Lunch
13:00 – 14:00	3. Additional agenda Items
14:00 – 14:45	4. Sub-Regional Aviation Safety Issues
14:45 – 15:15	Tea Break
15:15 – 15:45	5. Review of Conclusions of ARAST meeting
15:45 – 16:00	6. Close of the Meeting

Overall Attendance List 2nd ARAST

SN.	Designation	Name - Surname	Title	Organization	Mailing Address	Email	15 June	16-17 June	18 June
COSCAP-NA									
1	CAAC	Mr. Wu Cheng Chang	Deputy Director General-Flight Standards	Civil Aviation Authority of China	No. 155 Dongsu West Street Beijing, China	cc_wu@caac.gov.cn	X	X	X
2	CAAC	Mr. Chen Nan	Deputy Director Maintenance Division	Civil Aviation Authority of China	No. 155 Dongsu West Street Beijing, China	chennan@caac.gov.cn	X	X	X
3	ATMB of CAAC	Mr. Zhu Xiao Ying	Deputy Director of Safety Inspector Office	Operation Management Center of ATMB of CAAC	# 12 Dongsanhuan Zhouglu, Chaoyang, Beijing, China	zhuxiaoying@atmb.net.cn		X	X
4	ATMB of CAAC	Mr. Kang Nan	Assistant of ATC Department	ATMB of CAAC	# 12 Dongsanhuan Zhouglu, Chaoyang, Beijing, China	kangnan@atmb.net.cn		X	X
5	AIR CHINA	Mr. Tan Xu	Capt. And Flight Safety Inspector	Air China	Aviation Safety management Dept of Air China Tianzhulu 30, Shunyi, Beijing, China	tanxu@mail.airchina.com.cn	X	X	X
6	SPRING AIRLINES	Mr. Xu Zheng	Quality Manager of Maintenance and Engineering Department	Spring Airlines	Cargo Service Center, No.8 Konggang Rd. Hongqiao International Airport, Shanghai, China	xuzheng@air-spring.com	X	X	X
7	CHINA XIAMEN AIRLINES	Mr. Chen Hong Bo	Deputy Director of AOC	Xiamen Airlines	22 Dailiao Rd, Xiamen, China	-	X	X	X
8	CHINA SOUTHERN AIRLINES	Mr. Wang Wang	Flight Safety Quality Supervision Assistant	China Southern Airlines	#278,jichanglu,Baiyun District,GuangZhou,China	wang_wang@csair.com		X	X
9	CHINA SOUTHERN AIRLINES	Mr. Liu Zheng	Vice Manager of Operation Quality Dept SOC.	China Southern Airlines	No.461 room Southern Office Building SOC CSN Baiyun Airport Guangzhou City Guangdong Province China	lizx@ce-air.com		X	X
10	KOREA	Mr. Pak Man Ho	Assistant Director	Aviation Safety Division-Ministry of Land, Transport and Maritime Affairs (MLTM)	1-8 Byeolyang-dong, Gwacheon-si, Gyeonggi-do, ROK 427-040	parkmh09@korea.kr	X	X	X
11	KOREA	Mr. Chang Jae Soo	Assistant Director	Aviation Safety Division-Ministry of Land, Transport and Maritime Affairs (MLTM)	1-8 Byeolyang-dong, Gwacheon-si, Gyeonggi-do, ROK 427-822	atcchang@korea.kr	X	X	X
12	KOREA	Mr. Yool Kim	Assistant Director	Aviation Safety Division-Ministry of Land, Transport and Maritime Affairs (MLTM)	Flight Standards Division, 4th Floor 1-8 Byeolyang-dong, Gwacheon-si, Gyeonggi-do, ROK 427-822	rladb@korea.kr	X	X	X
13	BOEING	Mr. Michael L. Paone	Director	Boeing China	Tower A, 16/f Pacific Century Place #2A Worker's Stadium Rd. North Chaoyan, Beijing, China	michael.l.paone@boeing.com	X	X	X
14	BOEING	Capt.Robert Edward Johnson	Senior Instructor Pilot	China Support Organization Customer Services Division of Boeing China	Tower A, 16/f Pacific Century Place #2A Worker's Stadium Rd. North Chaoyan, Beijing, China	robert.e.johnson@boeing.com		X	X

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SN.	Designation	Name - Surname	Title	Organization	Mailing Address	Email	15 June	16-17 June	18 June
22	SINGAPORE	Mr. Tan Hwee Lee	Inspector (ATS)	Civil Aviation Authority of Singapore	P.O.Box 1 Singapore Changi Airport Singapore 918141	tan_hwee_lee@caas.gov.sg	X	X	X
23	SINGAPORE	Mr. Chan Wing Keong	Director	Air Accident Investigation Bureau of Singapore	P.O. Box 1005 Singapore Changi Airport Singapore 918155	chan_wing_keong@mot.gov.sg		X	
24	THAILAND	Mr. Bunlop Boonjimawat	Aviation Safety Inspector Senior Professional Level - Flight Standard Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	bbunlop@aviation.go.th	X	X	
25	THAILAND	Ms. Weena Nusdin	Aviation Safety Inspector Professional Level - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	nweena@aviation.go.th	X	X	
26	THAILAND	Mr. Suksawat Sukawanno	Aviation Safety Inspector Professional Level - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	suksawat@aviation.go.th	X	X	
27	THAILAND	Mr. Vasan Thanomsing	Aviation Safety Inspector Practitioner Lever - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	vasan@aviation.go.th	X		
28	THAILAND	Mr. Saengchai Maicharoensri	Transport Technical Officer Senior Professional Level-Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	msaeng@aviation.go.th		X	
29	THAILAND	Mr. Praphon Assawareeruk	Aviation Safety Inspector Professional Level - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	praphon@aviation.go.th		X	
30	THAILAND	Mr. Auttapon Wijitphan	Aviation Safety Inspector Practitioner Lever - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	auttapon.w@aviation.go.th		X	
31	THAILAND	Mr. Dome Supornpaibul	Aviation Safety Inspector Practitioner Lever - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	dome.s@aviation.go.th		X	
32	THAILAND	Mr. Warayut Sooksawat	Aviation Safety Inspector Practitioner Lever - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	-			X
33	THAILAND	Mr. Veera Cheevaidasarakul	Aviation Safety Inspector Practitioner Lever - Flight Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	veera@aviation.go.th			X
34	THAILAND	Lt.Jg. Yoottakarn Niewpant	Air Traffic Control Expert-Airport Standards Bureau	Department of Civil Aviation	71 Soi Ngamduplee, Rama 4 Road. Sathorn, Bangkok, Thailand 10120	niewpant@aviation.go.th			X
35	AERO THAI	Mr. Visut Dechpokket	Engineering Manager	Aeronautical Radio of Thailand Ltd.	102 soi Ngamduplee, Thoongmahamek, Sathorn, Bangkok, Thailand 10120	visut.de@aerothermal.co.th	X		X
36	AERO THAI	Ms. Duangtawan Pimpimai	Executive Administration Officer	Aeronautical Radio of Thailand Ltd.	102 soi Ngamduplee, Thoongmahamek, Sathorn, Bangkok, Thailand 10120	duangtawan.pi@aerothermal.co.th			X
37	AERO THAI	Mr. Sommoot Kongudorn	Engineering Manager	Aeronautical Radio of Thailand Ltd.	102 soi Ngamduplee, Thoongmahamek, Sathorn, Bangkok, Thailand 10120	sommoot.ko@aerothermal.co.th	X		

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38	THAI AIRWAYS	Mr. Thanee Deemongkol	Chief - Quality Standard and Aviation Safety Group Technical Dept.	Thai Airways International Pcl.	333/2 Moo 1 Nong Prue, Bangplee, Samutprakarn 10540 Thailand	thanee.d@thaiairways.com	X		
39	THAI AIRWAYS	Capt. Jate Muangkroot	Aircraft Accident/Incident Investigation and Safety Inspection Dept.	Thai Airways International Pcl.	89 Vibhavadi Rungsit Rd. Bangkok 10900 Thailand	jate.m@thaiairways.com		X	
40	THAI AIRWAYS	Capt. Sapon Phikanesuan	Chief - Flight Operations Standardization Group Flight Operations Dept.	Thai Airways International Pcl.	89 Vibhavadi Rungsit Rd. Bangkok 10900 Thailand	sapon.p@thaiairways.com			X
41	BANGKOK AIRWAYS	Mr. Prasit Pongsuwan	Quality Assurance Manager	Bangkok Airways Co.,Ltd.	99 Moo 14 Vibhavadi Rungsit Rd. Chom Phon, Chatuchak, Bangkok 10900 Thailand	prasit@bangkokair.com	X		
42	BANGKOK AIRWAYS	Sqn.Ldr Supakij Chanthasenanont	Flight Safety Manager	Bangkok Airways Co.,Ltd.	999 Moo 4 Bangna-Trad Rd. Bangchalong, Bangplee, Samutprakarn 10540 Thailand	supakij@bangkokair.com		X	
43	THAI AIR ASIA	Mr. Banyat Hansakul	Quality Assurance Manager	Thai Air Asia Co.,Ltd.	1st Floor OSC Bldg, 99 Moo 5 Kingkaw Rd. Rachatewa, Bangplee, Samutprakarn 10540 Thailand	banyath@airasia.com	X		
44	THAI AIR ASIA	Mr. Thanayu Khamtamai	Emergency Response Plan Manager	Thai Air Asia Co.,Ltd.	1st Floor OSC Bldg, 99 Moo 5 Kingkaw Rd. Rachatewa, Bangplee, Samutprakarn 10540 Thailand	thanayuk@airasia.com		X	
45	THAI AIR ASIA	Mr. Sithichai Promduang	Head of Dispatcher	Thai Air Asia Co.,Ltd.	1st Floor OSC Bldg, 99 Moo 5 Kingkaw Rd. Rachatewa, Bangplee, Samutprakarn 10540 Thailand	sithichaip@airasia.com	X	X	X
46	THAI AVIATION SERVICES	Mr. James Arthur Stokes	Chief Pilot	Thai Aviation Services Ltd.		-	X	X	X
47	NOK AIR	Mr. Sanya Limprasert	Flight Safety Manager	Nok Airlines	3rd Floor Domestic Terminal, Don Muang International Airport Vibhavadi Rungsit Rd. Sikan, Don Muang, Bangkok 10210 Thailand	supawan.sri@nokair.com		X	
48	NOK AIR	Mr. Rungsun Lamubol	Quality Assurance Director	Nok Airlines	# 3635 ,3/F Domestic Terminal, Bangkok International Airport Donmuang, Bangkok 10210	rungsun.lam@nokair.com	X		
49	NOK AIR	Mr. Surachart Angkasuwan	Schedule Planning Manager	Nok Airlines	183 Rajanakarn Bldg. 17th Floor South Sathorn Rd. Yannawa, Sathorn, Bangkok 10120 Thailand	surachart@nokair.com			X
50	NOK AIR	Mr. Viroon Mahittikul	Chief Dispatch and Operation Manager	Nok Airlines	3rd Floor Domestic Terminal, Don Muang International Airport Vibhavadi Rungsit Rd. Sikan, Don Muang, Bangkok 10210 Thailand	viroon.mah@nokair.com			X
51	NOK AIR	Mr. Panuwat Kesmuti	Flight Safety Officer	Nok Airlines	3rd Floor Domestic Terminal, Don Muang International Airport Vibhavadi Rungsit Rd. Sikan, Don Muang, Bangkok 10210 Thailand	kesmuti@yahoo.com		X	
52	SFS AVIATION	Mr. Pit Eardmusic	Pilot	SFS Aviation Co.,Ltd.	222 Moo 10 Hangar, No. 4432 Bangkok Airport, Vibhavadi-rangsit Rd, Donmuang, Bangkok 10210	-			X

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53	AAPA	Alvin Liaw	Senior Associate-Technical Affairs	Association of Asia Pacific Airlines	AAPA 9/F Kompleks Antarabangsa, Jalan Sultan Ismail 50250 Kuala Lumpur, Malaysia	alvinliaw@aapa.org.my	X	X	X
54	SFO / AIRBUS	Mr. Gerard Guyot	Aeronautic Consultant	Safer Flight Operations / AIRBUS	19 Rue Ernest Deloison - F 92200 Neuilly Sur Seine, France	gguyot.sfo@aeroconseil.com		X	X
55	BOEING	Mr. Henry D. Reed	Safety Specialist	Commercial Airplanes The Boeing Company	Aviation System Safety, 535 Garden Ave North, Renton WA 98055 U.S.A.	henry.d.reed@boeing.com	X	X	X
56	BOEING	Mr. Gerado M. Huetto	Programme Manager - Regional Safety	Aviation Safety - Commercial Airplanes The Boeing Company	Aviation System Safety, 535 Garden Ave North, Renton WA 98055 U.S.A.	gerardo.m.huetto@boeing.com	X	X	X
57	ATSB	Mr. Alan L. Stray	Director, International Air Transportation Safety Bureau	ATSB Australia		alan.stray@atsb.gov.au		X	
58	FAA	Mr. Kyle L. Olsen	Aviation Safety Advisor	Federal Aviation Administration	30424 128 Place SE, Auburn, WA 98092 U.S.A.	kyleolsen104@gmail.com	X	X	X
59	FAA	Mr. Glenn W. Michael	Air Traffic Manager	Federal Aviation Administration	Boston ARTCC, 35 Northeastern Blvd, Nashua, NH 03062 U.S.A.	glenn.w.michael@faa.gov	X	X	X
60	FAA	Mr. Edward L. Ortiz	Asia Pacific Affairs, Regional Coordinator, Aviation Safety Inspector, Airworthiness	Federal Aviation Administration	FAA/Flight Standards Service, International Programs and Policy Division, AFS-50; 800 Independence Ave., SW, Washington, DC 20591 U.S.A.	edward.ortiz@faa.gov	X	X	X
61	FAA	Ms. Mary Walsh	Senior Representative SEA, Australia and New Zealand	Federal Aviation Administration	American Embassy Singapore 27 Napier Rd. Singapore 258508	mary.walsh@faa.gov	X	X	
62	FAA	Ms. Catherine VanAssche	International Operations Specialist	Federal Aviation Administration	15000 Aviation Blvd, Lawndale, CA 90261 U.S.A.	catherine.g.vanassche@faa.gov	X	X	X
63	IATA	Mr. Anthony Houston	Assistant Director - Safety & Operations SO&I Asia Pacific	International Air Transport Association	Tripleone Somerset 111 Somerset Rd. # 14-05 Somerset Wing, Singapore	houstona@iata.org		X	
64	ICAO	Mr. Mitchell Fox	Chief, Flight Safety Section	ICAO HQs	999 University Street, Montreal, Quebec H3C 5H7 Canada	mfox@icao.int	X	X	X
65	ICAO	Capt. Fareed Shah	Flight Safety Officer	ICAO RD	252/1 Vibhavadi-Rangsit Rd, Chatuchak, Bangkok, Thailand 10900	fshah@bangkok.icao.int	X	X	X
66	ICAO	Mr. Christoph Kaupat	Associate Expert	ICAO RD	252/1 Vibhavadi-Rangsit Rd, Chatuchak, Bangkok, Thailand 10900	ckaupat@bangkok.icao.int	X	X	X
67	COSCAP-SEA	Capt. Len Cormier	Chief Technical Advisor	ICAO / COSCAP-SEA	ICAO P.O.Box 11 Samyaek Ladprao, Bangkok Thailand 10901	len.cormier@coscap-icao.org	X	X	X
68	COSCAP-SEA	Mr. Lou Garrido	Airworthiness Expert	ICAO / COSCAP-SEA	ICAO P.O.Box 11 Samyaek Ladprao, Bangkok Thailand 10901	khun.nong@coscap-icao.org	X	X	X
69	COSCAP-SEA	Mr. Maverick Douglas	Aerodrome Expert	ICAO / COSCAP-SEA	ICAO P.O.Box 11 Samyaek Ladprao, Bangkok Thailand 10901	maverick.douglas@coscap-icao.org	X	X	X
70	COSCAP-SEA	Ms. Sudhatai Juntarapatin	Project Secretary	ICAO / COSCAP-SEA	ICAO P.O.Box 11 Samyaek Ladprao, Bangkok Thailand 10901	lou.garrido@coscap-icao.org	X	X	X