Global Aviation Safety Plan / Roadmap

Decisions / Conclusions of the Joint RAST meeting held

On 16-17 JANUARY 2009, Bangkok - Thailand

**IMPLEMENTATION OF THE GLOBAL AVIATION SAFETY
PLAN/ROADMAP BEST PRACITICES WITHIN THE COSCAP PROGRAMMES
OF THE ASIA PACIFIC REGION**

Introduction

1.   Summary

1.1   The ICAO Global Aviation Safety Plan provides a common frame of reference for all stakeholders in order to allow a more proactive approach to aviation safety and to help coordinate and guide safety policies and initiatives worldwide to improve international civil aviation safety. GASP is to be used in conjunction with the Global Aviation Safety Roadmap developed by Industry for ICAO and at its request.

1.2   This document outlines implementation of the GASP/GASR Best Practices for the three COSCAP programmes of the Asia Pacific Region.

2.   Background

2.1   The COSCAP programme is a co-operative agreement between Member States/Administrations, executed by the International Civil Aviation Organization by means of a Trust Fund, and aimed at enhancing the safety and efficiency of air transport operations in the region. The programme is a dedicated forum for promoting continuing policy dialogue, coordination, cooperation and collaboration in matters related to aviation safety among the well developed and smaller participating civil aviation administrations and creating an environment for harmonization and advancement in safety oversight policies, procedures and regulations. It also provides an efficient and cost-effective method for assisting Member States for training of a large number of safety oversight personnel. In addition, it enables Member States/Administrations to be effective in promoting accident prevention through establishment of Regional Aviation Safety Teams (RASTs).

2.2   The 1st COSCAP programme, comprising the States of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, was established in South Asia (**COSCAP-SA**) in February 1998. Subsequently, two additional COSCAP type programmes were established in the ICAO Asia Pacific Region (Note: Other COSCAP type programmes established in other ICAO Regions are not discussed here):

   2.2.1   **COSCAP-South East Asia (SEA)** established 2001 – Brunei Darussalam, Cambodia, Hong Kong China, Macao China, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Viet Nam;

   2.2.2   **COSCAP-North Asia (NA)** established 2003 - China P.R., Democratic People's Republic of Korea, Mongolia, and Republic of Korea.

2.3　　Each COSCAP is guided by a Programme Steering Committee, comprising the DGCA of each Member State, the Director of the Technical Cooperation Bureau of ICAO or his representative, ICAO Regional Director or his representative, and the Programme's Chief Technical Adviser (CTA). In addition, officers from the ICAO Air Navigation Branch (ANB) and Implementation Support and Development Branch (ISD) often attend the Steering Committee Meetings to present and/or provide feedback. Representatives of the donor community and other organizations participating in programme funding in cash and/or in kind are also invited to participate at all Steering Committee Meetings, held every nine - ten months, as are air operator representatives and other service providers (some differences between the COSCAPs). Detailed progress reports on the results achieved since the previous meeting are provided to participants at each Steering Committee Meeting. Based on these reports the priorities concerning objectives/outputs of the programme may be adjusted.

2.4　　All the COSCAP programmes in Asia Pacific have established Regional Aviation Safety Teams (RASTs) which have been in place for 5 to 7 years depending on the COSCAP. Each RAST was established in accordance with the ICAO GASP which encouraged States to foster regional and sub-regional safety groups for the purpose of furthering the global safety effort. The RASTs have been assigned a high priority in the Asia Pacific by their respective COSCAP Steering Committee.

2.5　　The RASTs are closely linked to the FAA's 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.

2.6　　CAST and the European Joint Safety Strategy Initiative (JSSI) team approached aviation safety from the standpoint of risk reduction. History has shown that even when regulatory requirements are in place, accidents and incidents continue to occur. The goal of CAST is to develop interventions that reduce the risk of accidents and incidents.

2.7　　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.

2.8   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). The joint ARAST meeting was for two days, with a half day following for individual SARAST, NARAST and SEARAST meetings.

2.9   The RASTs have had considerable success in identifying, selecting and implementing the most powerful Safety Enhancements. Implementation of these enhancements is tracked and reported on at each Steering Committee Meeting.

2.10   While the work of the RASTs is continuing, implementation of the higher priority safety enhancements is being completed. It was decided that the Terms of Reference for each RASTs be adapted to utilize it as the mechanism to evaluate and facilitate implementation of the Best Practices defined in the GASP/R. The RASTs will continue to make recommendations to the respective COSCAP Steering Committee Meetings for their review and approval.

2.11   Global Safety Initiative(GSI) 1 through 5 of the GASP/R have a primary focus on government and GSI focus areas 6 though 12 have a primary focus related to the aviation industry.

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

Global Aviation Safety Plan (GASP) Process

The Global Aviation Safety Roadmap

The Global Aviation Safety Roadmap prepared by the Industry Safety Strategy Group in close cooperation with ICAO is the basis from which the Global Aviation Safety Plan has been 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 effort, 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 area that currently are not effectively addressed.

The Global Aviation Safety Roadmap provides a common frame of reference for all stakeholders including States, regulators, aircraft and airport operators, air traffic service providers, aircraft manufacturers, international organizations and safety organizations. It does so by defining the twelve following focus areas and providing guidance on how to address them:

States
1. Consistent implementation of international Standards
2. Consistent regulatory oversight
3. Effective errors / incidents reporting
4. Effective incident and accident investigation

Regions
5. Consistent coordination of regional programmes

Industry
6. Effective reporting and analysis of errors and incidents
7. Consistent use of Safety Management Systems
8. Consistent compliance with regulatory requirements
9. Consistent adoption of industry best practices
10. Alignment of global industry safety strategies
11. Sufficient number of qualified personnel
12. Effective use of technology to enhance safety

Part 2 of the roadmap provides detailed guidance on the implementation of the twelve focus areas by providing a set of objectives for each focus area that are each supported by a set of best practices and metric and a maturity model. The roadmap also includes a step-by-step process to help develop Safety Enhancement Plans at the regional or sub-regional level.

Relation between the Global Aviation Safety Plan and the Global Aviation Safety Roadmap

The Global Aviation Safety Roadmap constitutes the basis on which the Global Aviation Safety Plan is built and is an integral part of it. From a practical point of view, GASP can be seen as the ICAO strategy for States, regions and industry to address the focus areas identified in the roadmap. GASP also establishes a coordination mechanism to ensure that the roadmap and the plan are kept up-to-date in a coordinated way.

Need for Partnership

A proactive approach to aviation safety requires that all concerned stakeholders are involved. The very close relationship between the Global Aviation Safety Plan and the Global Aviation Safety Roadmap is an example of the partnership that shall permeate all safety initiatives. Although both the roadmap and the safety plan identify a primary stakeholder for each focus area, it needs to be emphasized that this grouping is not intended to be exclusive. The roadmap and the safety plan are built on the principle of partnership, and as such, it is essential that all relevant stakeholders are involved in the development and implementation of any activities aimed at improving safety under the focus areas. Their commitment is fundamental for success.

Together with ICAO, the chief shareholders in the civil aviation sector are States, airlines/operator, airports, air navigation service providers, aircraft and equipment manufacturers, maintenance and repair organizations, regional organizations, international organizations, and industry representatives. The commitment of all stakeholders is fundamental for success in improving safety.

Planning Process

The objective of the planning process is to collaboratively develop an action plan that defines the specific activities that should take place in order to improve safety. It begins with an analysis of what the situation is today, and then compares it to where the organization would like to be. This "gap analysis" identifies specific steps that can be taken to reach the desired goal. The developers of the plan then decide what specific actions will be taken and in what order – in other words, generating a prioritized action list. From that list, the developers build an action plan, which in addition to identifying the actions to be taken, determines who is responsible for them. The process – and each step – is illustrated in the flow chart below.
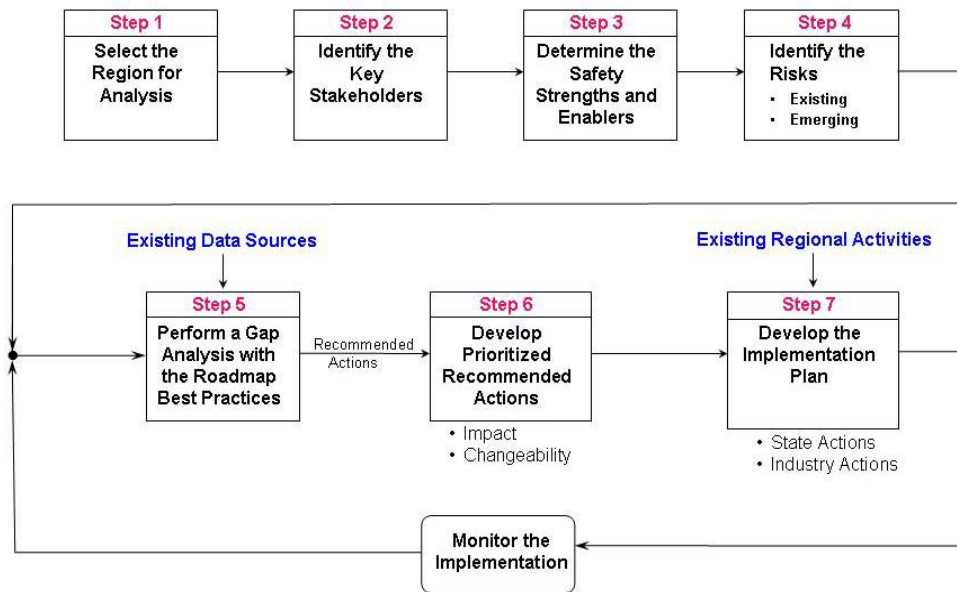
Planning process steps

Step 1   **Determine the subject for analysis:** A subject may be an ICAO region, one of the regions described in the roadmap, a subset of these regions (e.g. COSCAPs of similar States within a region), or even an individual State.

Step 2   **Identify key stakeholders:** In order to assure that any plan will be able to instil changes intended to improve aviation safety, it is essential that the perspective of all key stakeholders be considered. Therefore, those stakeholders need to be identified early. A stakeholder can be any party – e.g. Regulatory Authority operator, or organization – that could be involved in implementing or influencing changes, or which is significantly affected by these changes. These stakeholders will constitute a safety team that will perform the remaining steps.

Step 3   **Outline the safety strengths and enablers:** There is a need to develop an understanding of the general environment of the subject targeted for safety enhancement efforts. Inherent in every subject is a collection of factors that support the safety of aviation within that subject. The identification of these strengths and enablers is critical in order to find ways to build upon this safety foundation.

Step 4   **Identify the existing and merging risks:** The process requires the identification of those risks that can create an environment which will weaken overall aviation safety within that subject, either currently or in the foreseeable future. Accurate and comprehensive listings of these risks are essential in performing a meaningful gap analysis in Step 5.

Step 5   **Perform a gap analysis:** A gap analysis is simply an evaluation that compares the existing situation to the desired one. There are a variety of methods that can be used to perform a gap analysis. Using data from a number of existing sources (ICAO USOAP, IATA IOSA, safety deficiencies identified by PIRGs or other sources analysis of available safety data) or from the detailed knowledge derived from a group of knowledgeable experts, the gap analysis will describe the difference between the *current situation* (utilizing information captured in Steps 3 and 4), and the target, the highly evolved situation in which the global safety initiatives of the GASP have been implemented.

      The gap analysis summary should identify the organizations or entities responsible for correcting the deficiency. Multiple gaps will require assessment so that priorities can be established and appropriate implementation plans can be developed.

Step 6   **Develop prioritized recommended actions:** By reviewing the gaps and the associated best practices, a list of potential safety enhancement actions can be identified. However, it should be recognized that it is sometimes impractical to implement an action plan that addresses each and every deviation from the mature (highly evolved) level.

      Each gap identified in the gap analysis should be reviewed in the following manner:

- Safety impact – evaluate the safety enhancement that would result from the elimination of the gap. Ideally, a *quantitative* approach using various methodologies such as those developed by the United States' Commercial Aviation Safety Team (CAST) can be used. Where quantitative assessment is difficult, reliance on the knowledge and expertise of the evaluation team will allow ordering the list of potential actions having the greatest impact on safety.

- Implementation – although the impact on safety should be the primary method of prioritizing the list of potential actions, the ability to make the changes must also be considered. This evaluation should include the existence of the political will to change and the availability of technology and resources necessary to implement the change. A conclusion that implementation is not practical should be arrived at only as a last resort. If such a conclusion is reached, aviation activities need to be adjusted to remove the impact of the identified safety gap.

Step 7   **Develop an action plan:** Once a list of potential prioritized actions has been developed, the implementation action plan must be defined. The plan should include a manageable set of actions that represent those steps necessary to move to the next level of maturity.

Once the plan is finalized, a responsible party or organization must be identified to lead the implementation of each action item. It should be recognized that there are already many regional activities and organizations working around the world that may be able to provide implementation strategies and support. For example, the various ICAO COSCAPs forming in that area could be helpful in defining and coordination State actions.

Monitoring **Continuous improvement – what to do next:** The work is not complete, even after the plan has been defined and turned over to the organizations or individuals responsible for leading the implementation. The implementation activities should be continuously monitored to ensure that action is being accomplished, any roadblocks to implementation are removed and the plan accommodates any newly identified gaps.

This safety enhancement process is best accomplished in a step-wise fashion to move to the next level of maturity. Once the initial action plan has been completed, repeat the process in order to identify the next safety enhancement actions to implement.

Global Safety initiatives

Global safety initiatives are designed to support the implementation of the ICAO Safety Strategic Objective and other safety objectives that might be established by regions, States or industry. Planning and implementation should be started in the near-term and progressed in an evolutionary manner. Long-term initiatives necessary to guide the evolution to a safer civil aviation system will be added to the Global Aviation Safety Plan as they are developed and agreed to.

The initiatives described in the following pages are provided to facilitate the planning process and should not be viewed as stand-alone work items, but rather, in many cases, as interrelated. Therefore, initiatives are quite capable of integrating with, and supporting each other. Each GSI identifies the corresponding Focus Areas of the Global Aviation Safety Roadmap and include references to the Roadmap Best Practices as guidance for the development of implementation activities under each GSI.

ICAO will organize its own work programme under the Safety Strategic Objectives in line with the GASP and its GSIs to facilitate an effective global implementation.

Appendix B – Best Practice Applicability Matrix

Best Practice	States	Industry	ICAO	ISSG		Best Practice	States	Industry	ICAO	ISSG
1a-1			X			6a-1	X			
1a-2	X					6a-2		X		
1a-3	X					6a-3		X		
1b-1	X					6a-4		X		
1c/2b-1	X					6a-5		X		
1c/2b-2			X			6b-1		X		
1c/2b-3	X		X			6b-2		X		
c/2b-4	X					6b-3		X		
1c/2b-5			X			6b-4		X		
2a-1	X					6c-1		X		
2a-2	X					6c-2		X		
2a-3	X					6c-3		X		
2a-4	X					6c-4		X		
2a-5	X		X			7a-1		X		
2a-6	X		X			7b-1		X		X
3a-1	X					7e-1		X		
3a-2	X					8a-1		X		
3a-3	X					8a-2		X		
3a-4	X	X				8a-3		X		
3b-1			X			8a-4		X		
3b-2	X					8a-5		X		
3c-1			X			8b-1		X		
3c-2	X	X				8b-2		X		
3c-3	X					9a-1		X		
3c-4	X	X	X			9a-2		X	X	X
3d-1	X	X	X			9a-3		X		
3d-2			X			9a-4		X		
3d-3	X	X	X			9a-5		X		
3d-4			X			9b-1	X	X	X	
4a-1	X					10a-1				X
4a-2	X					10a-2				X
4a-3	X					10a-3				X
4a-4	X					10b-1				X
4a-5	X					10b-2				X
4a-6	X					10b-3				X
4a-7	X					10b-4		X		
4a-8	X					11a-1	X	X		
4a-9	X					11b-1	X	X		
4b-1	X					11b-2	X	X		
4b-2	X					11c-1		X		
4b-3	X					12a-1		X		
4c-1	X		X			12a-2		X		
4c-2	X		X			12a-3		X		
4c-3	X					12b-1		X		
4c-4	X					12b-2		X		
5a-1	X	X				12b-3		X		
5a-2	X	X				12c-1		X		
5a-3		X				12c-2		X		
5b-1	X	X	X							
5b-2	X	X	X							

COSCAP/RAST Implementation

of

GASP/GASR Best Practices

Global Safety Initiative 1 – Inconsistent Implementation of International Standards

Global Safety Initiative 1 – Inconsistent Implementation of International Standards

Global Safety Initiative 1 is are very broad in nature, so it will be very important for the RAST to develop a mechanism for determining the "gap", assessing the risk reduction to be achieved and then prioritize the activities that have the greatest potential to reduce risk.   As an example BP 1a-2 requires States to take all necessary action to incorporate SARPs.   As there are almost 10,000 SARPs it would be an enormous task to determine what SARPs have been well implemented in various States. It is well recognized that all SARPs do not have the same impact on safety risk.

Fortunately, ICAO has published an USOAP Comprehensive Systems Approach Analysis Report on the USOAP audit results, which will be extensively reviewed during the Workshop. The analysis provides data that will enable the RAST to determine those areas where the "gap" is the largest. ICAO also has conducted a review of the relationship between accident rates and individual critical elements which is also contained in the report. This analysis will assist with the assessment of risk. In addition, the team will need to add their assessment of risk for particular SARPs.

In addition, ICAO has provided to the COSCAP programme USOAP data for 11 of the 24 COSCAP Administrations who have been audited to date for each metric that utilizes the USOAP data.   6 N/S would indicate that ICAO assessed this protocol questions as unsatisfactory in 6 of the 11 States audited to date. N/A would mean that this item was assessed as not being applicable to a State.

COSCAP programmes assign a high priority to assisting Member States with the strengthening of their safety oversight system by utilizing the ICAO USOAP protocols to determine the "gaps" and then providing support for Member Administrations to complete the gap.   After the USOAP audit the COSCAPs provide support to assist Member Administrations with the implementation of the corrective action plan. The COSCAP programmes do not have sufficient resources to meet all the needs of member administrations and will to the extent possible share best practices used by other administrations.

Global Safety Initiative 1 – Inconsistent Implementation of International Standards

Table 1a –Best Practices	Metrics	Implementation
BP 1a-2 – **States takes all necessary action to ensure compliance with SARPs and industry best practice.** a. The State enacts enabling legislation which facilitates the creation and modification of a regulatory scheme giving SARPs the force of law. b. State processes include an evaluation of their own compliance with SARPs. c. State implements USOAP recommendations. d. State secures necessary financial, human and technical resources to develop, update and implement regulations meant to enforce SARPS and to implement industry best practices. Resources are drawn as necessary from national, regional and international sources. e. ICAO assistance activities are aligned with the Global Aviation Safety Plan (GASP) and the *Global Aviation Safety Roadmap.*	a. USOAP LEG 1.001 Has the State promulgated primary aviation legislation (civil aviation act, code of civil aviation, aeronautics code, etc.)? **N/S 2, NA 1** LEG 1.005 Does the primary aviation legislation provide for the introduction/adoption of air navigation regulations and the promulgation thereof? **N/S 2** LEG 1.009 Has the State established procedures for the amendment of its specific regulations taking into consideration existing ICAO provisions and future amendments to ICAO Annexes? 1.009 **N/S 8** ORG 2.009 What legal basis has been promulgated for the establishment of the civil aviation safety oversight system in the State? N/S ORG 2.009 b. USOAP OPS 4.003 Has the State developed procedures for the amendment of its enabling regulations and national standards? 4.003, **N/S 7** OPS 4.005 Has the State established and implemented a procedure to amend its regulations subsequent to an Annex amendment and for listing and notifying differences, if any, to ICAO? 4.005, **N/S 7** AGA 8.003 Has the State established procedures for the amendment of its enabling regulations and national standards? 8.003, **N/S 7**	□ Complete □ Somewhat □ Little/None □ Not Applicable X On going Analysis: Republic of Korea has developed and made available the SMIS to support the need to track. implementation ACTIONS 1. COSCCAP to request RoK to provide SMIS workshop 2. States to continue their efforts as necessary to comply in this area.

| f. State publishes notice of non compliance to all affected entities and notifies ICAO in accordance with Article 38 of the Convention until such time as the SARP is complied with. | c. ICAO Doc. 9735, Chapter 6

d. USOAP ORG 2.051
Has the State established a mechanism to ensure that the CAA(s) have sufficient financial resources to meet its national and international obligations related to civil aviation safety oversight? **N/S 6**

ORG 2.053
Has the State established a mechanism to ensure that the CAA(s) have sufficient human resources to meet its national and international obligations related to civil aviation safety oversight? **N/S 7**

e. Percentage of assistance activities that can be linked to best practices or focus area -Results of assistance activities are assessed against metrics and other available benchmarks

f. Difference are notified to ICAO –Significant differences are listed in the State's AIP
USOAP LEG 1.025

Has the State established and implemented procedures for identifying and notifying differences, if any, to ICAO? **N/S 9** | |

Table 1a –Best Practices	Metrics	Implementation
BP 1a-3 **States use information obtained during implementation of SARPS and operational experience to recommend improvements to ICAO**	a. Documented evidence exists that proposals have been made to ICAO	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 1a –Best Practices	Metrics	Implementation
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** a. Preventing operators certificated in non conforming States from operating internationally where the risk in doing so in evident or when the non conforming State has failed to carry our recommendations or determinations of the ICAO Council under Article 54j of the Chicago Convention. b. Preventing operators certificated in	a. States have regulations and procedure to ensure that foreign operators complies with international Standards and receive proper oversight USOAP LEG 1.107 Does the legislation or regulations contain provisions to allow for a clear delegation of authority to CAA inspectors to access and inspect aircraft, aviation facilities and aviation documents?**N/S 4** LEG 1.109 Does an inspector have the right to detain aircraft for just cause either directly or using an established process that can be applied in a timely manner?**N/S 2**	□ Complete X Somewhat □ Little/None □ Not Applicable Analysis: 1. COSCAP Foreign Air Operator Validation and Surveillance Course 2. COSCAP model rules and procedures manual for FAO Validation and Surveillance ACTIONS 1) States to implement Annex 6, amendment

| conforming States from operating in non conforming States where the risk in doing so is evident or when the non conforming States has failed to carry out recommendations or determinations of the ICAO Council under Article 54j of the Chicago Convention.

c. State releases USOAP audit information to the public. | LEG 1.111
Does an inspector have the right to prohibit any person from exercising the privileges of any aviation license, certificate or document for just cause either directly or using an established process that can be applied in a timely manner?**N/S 3**

b. States have a process to assess the risk or require the operator to conduct such assessment – Measures are taken when risk is deemed unacceptable.

c. FSIX | 32 regarding Foreign Air operators by revision to regulations, procdures and guidance material
2) COSCAP Foreign Air Operator Validation and Surveillance Course to be delivered on request.
3) COSCAP to continue to monitor and support effective implementation of the requirements |

Table 1b –Best Practices	Metrics	Implementation
BP 1b-1 **Gap assessment is conducted by a competent entity.** a. The competent entity has sufficient guarantees concerning performance, independence and reliability. b. Timely remediation plan is developed in the context of the particular requirements of the State involved and the resources which may be available to assist in its execution.	a. ICAO Doc 9735 Para. 5.12; 5.14; Appendix E b. ICAO Doc 9735 Para. 5.14; Appendix E	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 1c/2b –Best Practices	Metrics	Implementation

BP 1c/2b-1 **The standing management process of the Regulatory Authority ensures that self assessments are conducted wherever notified of change by ICAO and should be conducted at least annually.** a. The Regulatory Authority has sufficient staff, resources and appropriate procedures to conduct an effective self assessment. b. Each self assessment makes full use of the results of other audits conducted on the industry that comes under the oversight of the Regulatory Authority.	a. USOAP ORG 2.051 Has the State established a mechanism to ensure that the CAA(s) have sufficient financial resources to meet its national and international obligations related to civil aviation safety oversight?**N/S 6** b. USOAP OPS 4.409 Does the aircraft operations organization ensure that a security training programme has been established and approved by the authority before granting the AOC? **N/S5**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: USOAP 2.051 N/S 6 4.409 N/S 5

Table 1c/2b –Best Practices	Metrics	Implementation
BP 1c/2b-2 **External audits are conducted at least every 3 years by ICAO USOAP or another competent entity, utilizing the USOAP methodology.** a. External audit programs are coordinated to avoid duplication and waste of resources.	a. ICAO Doc. 9735 Para. 5.2	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 1c/2b –Best Practices	Metrics	Implementation
BP 1c/2b-3 **Periodic assessments are transparent to the aviation community.** a. Other States utilize the results of periodic assessments for the purpose of mutual recognition. b. Results are shared.	a. FSIX – ICAO Doc. 9735 Para 6.1.1e b. Structures exist and are utilized to facility the sharing of the results of periodic assessments	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 1c/2b –Best Practices	Metrics	Implementation
BP 1c/2b-4 **Deficiencies identified during periodic assessments are addressed in a timely manner, utilizing coordinated international support where necessary.**	a. ICAO Doc 9735 Para. 2.1.1	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 1c/2b –Best Practices	Metrics	Implementation
BP 1c/2b-5 **Periodic assessment methodology is reviewed and amended as required to ensure continuing relevance.**	a. Documented evidence that a review has been undertaken during the preceding 3 years.	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

COSCAP/RAST Implementation

of

GASP/GASR Best Practices
Global Safety Initiative 2 – Inconsistent Regulatory Oversight

Global Safety Initiative 2 – Inconsistent Regulatory Oversight General Summary

Global Safety Initiative 2 is very broad in nature, so it will be very important for the RAST to develop a mechanism for determining the "gap", assessing the risk reduction to be achieved, and then prioritize the activities that have the greatest potential to reduce risk.   As an example BP 2a-1 requires States to implement the 8 critical elements of the safety oversight system.   It requires a significant effort by States to effective implement the critical elements of a safety oversight system. In addition, it is well recognized that all aspects of the critical elements do not have the same impact on safety risk.

Fortunately, ICAO has published an USOAP Comprehensive Systems Approach Analysis Report on the USOAP audit results, which will be extensively reviewed during the Workshop. The analysis provides data that will enable the RAST to determine those areas where the "gap" is the largest. ICAO also has conducted a review of the relationship between accident rates and individual critical elements which is also contained in the report. This analysis will assist with the assessment of risk. In addition, the team will need to add their assessment of risk for particular SARPs.

In addition, ICAO has provided USOAP data for 11 of the 24 COSCAP Administrations who have been audited to date. The data is shown against the relevant metric that follow below.   6 N/S would indicate that ICAO assessed this protocol questions as unsatisfactory in 6 of the 11 States audited to date. N/A would mean that this item was assessed as not being applicable to a State.

COSCAP programmes assign a high priority to assisting Member States with the strengthening of their safety oversight system by utilizing the ICAO USOAP protocols to determine the "gaps" and then providing support for Member Administrations to complete the gap.   After the USOAP audit the COSCAPs provide support to assist Member Administrations with the implementation of the corrective action plan. The COSCAP programmes do not have sufficient resources to meet all the needs of member administrations and will to the extent possible share best practices used by other administrations.

Global Safety Initiative 2 – Inconsistent Regulatory Oversight

Table 2a –Best Practices	Metrics	Implementation
BP 2a-1 – **State utilizes/implements the 8 critical elements of the safety oversight system.** a. Primary aviation legislation b. Specific operating regulations c. CAA structure and safety oversight functions d. Technical guidance e. Qualified technical personnel f. Licensing and certification obligations g. Continued surveillance obligations h. Resolution of safety issues	a. State implements in accordance with ICAO Doc 9734 Part A Chapter 3	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 2a –Best Practices	Metrics	Implementation
BP 2a-2 – **State provides a mechanism for sufficient funding of safety oversight activities.**	a. USOAP ORG 2.051 Has the State established a mechanism to ensure that the CAA(s) have sufficient financial resources to meet its national and international obligations related to civil aviation safety oversight? N/S 6	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 2a –Best Practices	Metrics	Implementation
BP 2a-3 – **State applies the principles of risk management to its safety related activities.** a. Hazards and risks are assessed and prioritized on a regular basis. b. Risk mitigation strategies are developed and implemented. c. Results are assessed and corrective action taken as needed.	a. ICAO Doc. 9859 Para. 3.3 b. Attendance at ICAO SMS Training Course	□ Complete □ Somewhat □ Little/None □ Not Applicable X On going Analysis: The Asian COSCAP's use the results of risk assessments made by CAST, ESSI, Flight Safety Foundation, etc., to develop and implement safety enhancements for the Region. Data received from the CAST/JSSI review of accident/incident reports is shared among Asian COSCAP member States. In the future risk assessment techniques may be used to develop and prioritize safety enhancements. However, duplication will be avoided. Over the past seven years, the Regional Aviation Safety Teams in Asia have selected for implementation those safety enhancements that will provide the greatest risk reduction. COSCAP Steering Committee meetings and Safety Team meetings are each held at approximately 8-month intervals to review implementation status and assess results. b. COSCAP has provided the ICAO SMS training course to the member States in Asia. Most States have attended the course and the remaining States will attend in the next year.

		ACTIONS
		  1. States to implement SSP, including the requirement for SMS implementation by service providers.
		  2. COSCAPs to support SSP development and SMS implementation through provision of training courses
		  3. COSCAPs to assist States through the development of generic models and guidance.

Table 2a –Best Practices	**Metrics**	**Implementation**
BP 2a-4 – **The Regulatory Authority acts independently where safety issues are implicated in its actions** a. The individuals responsible for such action must be given appropriate authority to exercise their responsibilities. b. Accountability for the exercise of regulatory authority must be in accordance with the principles of a "just culture" *(see Objective 3a for a discussion of "just culture").*	a. USOAP LEG 1.109 Does an inspector have the right to detain aircraft for just cause either directly or using an established process that can be applied in a timely manner? **N/S 2** USOAP 1.111 Does an inspector have the right to prohibit any person from exercising the privileges of any aviation license, certificate or document for just cause either directly or using an established process that can be applied in a timely manner? **N/S 3** b. Annex 13 Attachment E; i.e. USOAP AIG 6.505 If there is a voluntary incident reporting system, has the State established legislation and procedures for ensuring that the system is non-punitive and for ensuring protection to the sources of the information? **N/S 5, N/A 1**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: USOAP AIG 6.505 related to AIG / Reporting sub-team

Table 2a –Best Practices	Metrics	Implementation
BP 2a-5 – **Regional oversight organizations or equivalent means are in place to perform those functions which cannot be performed by the State acting on its own.** a. States may also decide to use Regional oversight organization as a matter of convenience (e.g. Agencia Centroamericana de Seguridad Aeronáutica (ACSA)). b. Outsourcing the technical and administrative tasks associated with oversight to another Regulatory Authority or a private contractor is an example of a means equivalent to a regional oversight organization.	**a.** If the State has delegated or transferred safety oversight-related tasks to a supranational (regional or subregional) entity, which procedures are established to ensure that the State's obligation for safety oversight in the delegated areas is being met? **N/A 8**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 2a –Best Practices	Metrics	Implementation
BP 2a-6 – **Periodic assessments are conducted.**	a. FSIX – ICAO Doc. 9735 Para 6.1.1e b. Structures exist and are utilized to facility the sharing of the results of periodic assessments	□ Complete □ Somewhat □ Little/None □ Not Applicable X On going Analysis: 1. USOAP Audits 2. At a regional level in Asia, COSCAP Steering Committee meetings and Safety Team meetings are each held at approximately 9 month intervals to review implementation status, assess results.

COSCAP/RAST Implementation

of

GASP/GASR Best Practices

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

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

ICAO has published an USOAP Comprehensive Systems Approach Analysis Report on the USOAP audit results, which will be extensively reviewed during the Workshop. The analysis provides data that will enable the RAST to determine those areas where the "gap" is the largest. ICAO also has conducted a review of the relationship between accident rates and individual critical elements which is also contained in the report. This analysis will assist with the assessment of risk. In addition, the team will need to add their assessment of risk for particular SARPs.

In addition, ICAO has provided USOAP data for 11 of the 24 COSCAP Administrations who have been audited to date. The data is shown against the relevant metric that follow below. 6 N/S would indicate that ICAO assessed this protocol questions as unsatisfactory in 6 of the 11 States audited to date. N/A would mean that this item was assessed as not being applicable to a State.

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

Table 3a –Best Practices	Metrics	Implementation
BP 3a-1 – **The State has a legislative framework that protects safety data.** The State legislation must include provisions which protect privacy, prevent self incrimination and properly apportion criminal liability for actions. Without these basic features, full disclosure of safety related information will be extremely difficult.	a. ICAO Annex 13 Attachment E b. USOAP AIG 6.505 If there is a voluntary incident reporting system, has the State established legislation and procedures for ensuring that the system is non-punitive and for ensuring protection to the sources of the information? **N/S 5, N/A 1**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3a –Best Practices	Metrics	Implementation
BP 3a-2 – **The State implements mandatory reporting of accidents and incidents.**	a. ICAO Annex 13 chapter 8 b. USOAP AIG 6.501 Has the State established a mandatory incident reporting system to facilitate the collection of information on actual or potential safety deficiencies? **N/S 4**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3a –Best Practices	Metrics	Implementation
BP 3a-3 – **The State encourages voluntary reporting.** a. Regulatory framework exists. b. "Just culture" exists. c. Data from reports are used in a timely and efficient manner to improve safety.	a. USOAP AIG 6.503 Has the State established a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system? **N/S 8** AIG 6.505 If there is a voluntary incident reporting system, has the State established legislation and procedures for ensuring that the system is non-punitive and for ensuring protection to the sources of the information? **N/S 5, N/A 1** b. USOAP AIG 6.507 Has the State established an accident and incident database for facilitating the effective analysis of information obtained, including that from its accident and incident reporting systems? **N/S 7** AIG 6.511 Does the State analyze the information contained in its accident/ incident reports and the database to determine any preventative actions required? **N/S 7**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: ACTION: 1) AIG / Reporting sub-team to exmaine requirements and procedures and BPs for the establishement of effective voluntary reporting. 2) Singapore AIB kindly offered to support this initiative

Table 3a –Best Practices	Metrics	Implementation
BP 3a-4 – **Each aviation professional who has an impact on safety has a clear understanding of what constitutes acceptable and unacceptable behavior.**	a. The State regulatory system provides clear guidance on the subject b. The operator /ANSP has clear explicit policy on the subject	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: ACTION 1) CTA North Asia to develop guidance to supplement ICAO material related to GSI-3a-4.

Table 3b –Best Practices	Metrics	Implementation
BP 3b-1 – **ICAO assesses the level of implementation of open reporting.** a. USOAP Audit b. Assessment during visit to State by ICAO Officials. c. Regular questionnaires sent by ICAO	a. USOAP AIG 6.503 Has the State established a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system? **N/S 8** b. ICAO has reliable data on the level of implementation of open reporting	□ Complete □ Somewhat □ Little/None □ Not Applicable

d. Other sources of information (IATA, IFALPA, FSF, CANSO, ACI).		Analysis:
Table 3b –Best Practices	**Metrics**	**Implementation**
BP 3b-2 – **The State understands the need for open reporting systems and takes appropriate measures to implement them.** a. ICAO and industry actively promotes open reporting systems b. Regulatory Authority and industry understanding. c. Public awareness/education	a. USOAP AIG 6.505 If there is a voluntary incident reporting system, has the State established legislation and procedures for ensuring that the system is non-punitive and for ensuring protection to the sources of the information? **N/S 5, N/A 1** AIG 6.507 Has the State established an accident and incident database for facilitating the effective analysis of information obtained, including that from its accident and incident reporting systems? **N/S 7**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3c –Best Practices	Metrics	Implementation
BP 3c-1 – **An entity is designated in each region as the focal point for collating safety data.** a. Use existing safety groups to collect, integrate and analyze safety data on a regional basis. b. Use of regional groups, such as the Planning and Implementation Regional Groups (PIRGs), to identify safety issues. c. Common methodologies for collection of safety data are utilized.	a. The designated entity is identified in each region	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3c –Best Practices	Metrics	Implementation
BP 3c-2 – **States and the industry stakeholders in the region contribute safety data.**	a. Percentage of States in the region that contributes safety data b. Percentage of Operators/Service providers that contributes safety data	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:
Table 3c –Best Practices	Metrics	Implementation

BP 3c-3 – **Safety data is analyzed and action is taken at the regional and State level to correct deficiencies.**	a. Analysis of data, together with information on corrective actions and their results, is available	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3c –Best Practices	Metrics	Implementation	
BP 3c-4 – **Safety data are categorized on the ICAO based common taxonomy.**	a. CAST/ICAO Common Taxonomy is used	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:	

Table 3d –Best Practices	Metrics	Implementation
BP 3d-1 – **The principle of "just culture" underpins the international sharing of data/global data reporting system**	a. ICAO Annex 13 Attachment E. b. USOAP AIG 6.509 If yes, is the database created in a standardized format to facilitate data exchange? **N/S 6, N/A 1**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3d –Best Practices	Metrics	Implementation
BP 3d-2 – **A common taxonomy is in place.**	a. USOAP AIG 6.509 If yes, is the database created in a standardized format to facilitate data exchange? **N/S 6, N/A 1**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3d –Best Practices	Metrics	Implementation
BP 3d-3 – **Each Data collection system is designed in such way that sharing of de-identified data is easy.** *Note: De-identified data is data that has had differentiating parameters such as names removed.*	a. Sharing of de-identified data is taking place	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 3d –Best Practices	Metrics	Implementation
BP 3d-4 – **Safety data are analyzed in an objective and scientifically sound manner, independent of any non-safety considerations, and the result is shared with all stakeholders.**	a. Peer review b. Sharing system is in place and working	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

COSCAP/RAST Implementation

of

GASP/GASR Best Practices

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

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

COSCAPs - While historically not a core activity of the COSCAP programmes in Asia Pacific, a number of Seminars and Workshops have been organized over the years mainly in South Asia and North Asia related to BP in this Global Safety Initiative. The International Society of Air Safety Investigators (ISASI) has conducted two ISASI Reachout Workshops in South Asia and one in North Asia. With the support of the NTSB, the COSCAP-NA programme conducted a two week Accident Investigation Course for North Asia. The BEA is now conducting a series of Accident Investigation Seminars in each of the three COSCAPs. North Asia Seminar was completed late in 2008 and the programme in South East Asia will be completed in June 2009. The COSCAP programmes in Asia Pacific have launched a major initiative to develop Model Regulations, Model Accident Procedures and Investigation Manual(s) and subsequently training related to this material as highlighted in Attachment I to this paper. This work is being coordinated with ICAO, BEA, FAA, NTSB, Republic of Korea AIB, and Singapore AIB with funding support from Boeing to engage the AIG Expert who is developing the AIG Manuals.

Other - Many States have received Accident Investigation Training in Europe under an EU cooperation programme that was completed in 2007.   A number of States send their AIG staff to Singapore Aviation Academy who conduct training once each year or to other similar training organization. Recently, ASEAN States (10 States of COSCAP-SEA) signed an MOU of cooperation in Accident Investigation. As a result of the recently completed AIG Meeting, ICAO is presently developing Guidance Material on Regional Accident Investigation. In a related matter there is also some consideration being given to development of a Regional Accident Investigation mechanism for Asia Pacific. In addition, the use of ECCAIRS, ECCAIRS database and training is supported and with the support of JRC and BEA this training has been provided to COSCAP-NA/SEA. This technology will allow the sharing of data between States in the Region and through ICAO, States worldwide. COSCAPs supports CAST-ICAO Common Taxonomy Team accident definitions, phase of flight definitions and aircraft and engine make/model designations which will facilitate the sharing of data worldwide.

However, a review of the USOAP Audit Results data indicates that there remain significant gaps in the Asia Region related to Accident and Incident Investigation. For this Global Safety Initiative the metrics below related mostly to USOAP protocol questions. COSCAP has gathered this data from ICAO and in the report that follows, both the protocol question and the result of the ICAO assessment are indicated (audit reports for 11 COSCAP States available to date). The outputs from the initiative by the COSCAPs in Attachment I, if effectively implemented should satisfy many of the best practices that follow. However, considerable efforts will be required by many States to strengthen this area of their safety oversight system which has been identified as the number one area of weakness based on USOAP audits completed to date.

Note 1: USOAP data gathered for 11 of 24 COSCAP Administrations who have been audited to date. The data is shown against the relevant metric.   6 N/S would indicate that ICAO USOAP has assessed this protocol question as not satisfactory in 6 of the 11 States audited to date. N/A would mean that this item was assessed as not applicable in that State.

Note 2: Attachment II contains data on the areas where States have the greatest shortfall.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-1 – **State Accident Investigators are independent.** a. The State's safety accident investigators are organizationally independent from its Transportation authorities (from the Civil Aviation Authority (CAA)) and any other potential party to the investigation. b. Investigations are conducted functionally independent from political or other interference or pressure.	a. USOAP AIG 6.005 AIG 6.005 Does the legislation or regulations provide for the independence of the accident investigation authority in charge of conducting aircraft accident and incident investigations? **N/S - 6** b. ICAO Annex 13 Paragraph 3.1; USOAP	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: ACTION: 1) COSCAP to develop terms of reference for AIG / Reporting sub-team as part of the ARAST t of R. 2) COSCAPs to form AIG /Reporting sub-team as part of ARAST 3) Model AIG rules and model manual to be sent to the Sub-group for detailed review to verify against BP / metrics of Roadmap 4) COSCAPs to follow up with ICAO South America region for models 5) Sub-team meeting in November 2009, at Regional Office, under ICAO RO invitation. 6) Sub-group to continue analysis of GSI-4 and GSI-3 and report to ARAST 7) Singapore AIB kindly agreed to provide strong support to

		the AIG / Reporting sub-team 8) AIG / Reporting sub-team to report back to the ARAST.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-2 – **State issues safety recommendations.** a. Following an investigation, States issue adequate safety recommendations and have established procedures to follow-up on the implementation of such recommendations. b. The recipients of safety recommendations have established a procedure to address the recommendations. c. The recipient of a safety recommendation informs the proposing State of the corrective action taken or under consideration or the reasons why no action is taken. d. Safety recommendations and action taken thereon are publicly available.	a. ICAO Annex 13, paragraph 6.8, and 6.9 USOAP AIG 6.421 Has the State, as the State conducting the investigation, established procedures for recommending to the appropriate authorities, including those in other States, any preventive action which it considers necessary to be taken promptly to enhance aviation safety at any stage of an accident or incident investigation? **N/S 5** AIG 6.423 Does the State, as the State conducting the investigation of accidents or incidents, address, when appropriate, any safety recommendations arising from its investigations to accident investigation authorities in other State(s) concerned and, when ICAO documents are involved, to ICAO? **N/S 8** b. USOAP AIG 6.425 Does the State, as the State receiving safety recommendations from other States, inform the proposing State of the preventive action taken or under consideration or the reasons why no action will be taken? **N/S 7** c. ICAO Annex 13 paragraph 6.10 d. Information is available on public Website	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 4a –Best Practices	Metrics		Implementation
BP 4a-3 – **States have access to trained accident investigators.** a. States have access to a set of trained accident investigators, either internal investigators or from a regional or international/global source. b. As applicable, procedures have been established for delegation of accident investigations to other States or regional bodies.	a. ICAO Doc 9756 Part I b. USOAP AIG 6.033 Does the State, as the State conducting the investigation, permit the participation of accredited representatives from other States involved? **N/S 8** AIG 6.109 Do the State's legislation and procedures allow the accident investigation organization, commission, board or other body to call on the best technical expertise from any source? **N/S 2** AIG 6.113 If the State does not have its own appropriately qualified personnel, does the State have arrangements (i.e. memoranda of understanding [MOUs]) with other States or other bodies, regional or ICAO, to obtain the necessary personnel in an expeditious manner in the event of an accident? **N/S 2, N/A 4**		□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-4 – **States have implemented clear guidance on what to investigate.** a. States have implemented clear guidance defining what to investigate and who it is to be notified – both internal to the State and internationally. b. The State investigates all accidents and serious incidents that occur in its territory and over the high seas as the State of Registry.	a. ICAO Annex 13, Paragraphs 4.1, 4.8, 5.1 and 5.3 b. Doc 9756, Part I. c. USOAP AIG 6.009 Does the legislation or regulations require the designated investigation authority to comply with ICAO Annex 13 provisions in conducting the investigation? **N/S 4** AIG 6.319 Has the State established procedures for forwarding accident/serious incident notifications to the States involved and, when applicable, ICAO in the following situations where it is not the State of Occurrence: **N/S 6** AIG 6.341 Has the State adopted the definitions listed in Chapter 1 of Annex 13? **N/S 4**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement best practice **a.**

Table 4a –Best Practices	Metrics	Implementation
BP 4a-5 – **State has a defined process for allowing involved Parties to participate in an accident investigation.**	a. ICAO Annex 13, Paragraphs 5.18, 5.19, 5.20, 5.23 and 5.27. b. USOAP AIG 6.033 Does the State, as the State conducting the investigation, permit the participation of accredited representatives from other States involved? **N/S 8** AIG 6.109 Do the State's legislation and procedures allow the accident investigation organization, commission, board or other body to call on the best technical expertise from any source? **N/S 2** AIG 6.365 Has the State established procedures to entitle accredited representatives to participate, under the control of the IIC, in all aspects of the investigation? **N/S 5** AIG 6.367 Does the State, as the State conducting the investigation, allow advisers assisting accredited representatives to participate in an investigation to the extent necessary to make the representatives' participation effective? **N/S 6**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-6 – **State has defined a rigorous and complete process for conducting an accident/incident investigation.**	a. ICAO Doc 9756, Part I. b. USOAP AIG 6.301 Has the State established a plan to manage the various types of investigation, including a major aircraft accident investigation? **N/S 5** AIG 6.303 Has the State developed an investigation procedures manual or equivalent guidance material to be used by investigators during an accident/incident investigation? **N/S 6**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-7 – **State conducts its investigations and provides required reports in a timely manner.** a. Interim recommendations are provided whenever appropriate.	a. ICAO Annex 13, Paragraphs 6.5, 6.6 and 6.8. b. ICAO Doc 9756, Part IV. c. USOAP AIG 6.405 Has the State, as the State conducting the investigation of an accident or incident, established procedures for the release of the final report as soon as possible? **N/S 7** AIG 6.431 Does the State prepare and send preliminary reports, when the aircraft involved in an accident is of a maximum mass of over 2 250 kg, to all involved States and ICAO? **N/S 8**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-8 – **State has enacted appropriate legislation for the investigation of accidents and incidents.**	a. ICAO Annex 13, Paragraphs 5.1 and 5.1.1. b. ICAO Doc 9756, Part I. c. USOAP AIG 6.001 Does the State's legislation enable the State to institute an investigation into the circumstances of aircraft accidents and incidents in accordance with the provisions of Article 26 of the Chicago Convention and Annex 13? **N/S 3**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4a –Best Practices	Metrics	Implementation
BP 4a-9 – **States provide funding for accident and incident investigations.**	a. ICAO Doc 9756, Part I. b. USOAP AIG 6.105 Has the State established a process for funding the accident investigation authority to investigate accidents which fall into its area of responsibility? **N/S 4** AIG 6.107 Has the State established a process for supplementary funding of accident investigations when required (major accidents)? **N/S 5**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 4b –Best Practices	Metrics	Implementation
BP 4b-1 – **States' accident investigations are conducted for safety and not to appropriate blame.**	a. ICAO Annex 13, – Paragraphs 3.1 and 5.4.1 b. ICAO Doc 9756, Part I c. USOAP AIG 6.013 AIG 6.013 If there are in the State any judicial or administrative proceedings which apportion blame or liability, are they separate from any investigation conducted under the provisions of Annex 13?	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4b –Best Practices	Metrics	Implementation
BP 4b-2 – **States protect safety data used during the accident investigation**.	a. ICAO Annex 13, Paragraphs 5.12, 5.12.1 and Attachment E b. USOAP AIG 6.029 Has the State established legislation or regulations for the non-disclosure of cockpit voice recorder (CVR) recordings? **N/S 7** AIG 6.031 Has the State established legislation or regulations for the non-disclosure of certain records for purposes other than accident or incident investigation? **N/S 6**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4b –Best Practices	Metrics	Implementation
BP 4b-3 – **States have defined an interface between normal operations reporting and accident/ incident reporting & investigation.**	a. USOAP AIG 6.507 Has the State established an accident and incident database for facilitating the effective analysis of information obtained, including that from its accident and incident reporting systems? **N/S 7** AIG 6.509 If yes, is the database created in a standardized format to facilitate data exchange? **N/S 6, N/A 1**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice.

Table 4c –Best Practices	Metrics	Implementation
BP 4c-1 – **States share their accident and serious incident reports globally.**	a. USOAP AIG 6.415 Has the State, as the State conducting the investigation, established procedures for sending the final report to ICAO for all investigated accidents and incidents when the aircraft is of a mass of over 5 700 kg? **N/S 5** AIG 6.421 Has the State, as the State conducting the investigation, established procedures for recommending to the appropriate authorities, including those in other States, any preventive action which it considers necessary to be taken promptly to enhance aviation safety at any stage of an accident or incident investigation? **N/S 5** b. Actions are recommended according to ICAO Annex 13, Paragraph 6.8	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: Effective implementation of the outputs from the initiative outlined in Attachment I should effectively implement this best practice. Utilization and implementation of ECCAIRS will facilitate the reporting requirements related to a.

Table 4c –Best Practices	Metrics	Implementation
BP 4c-2 – **States and regional organizations establish Incident Review Meetings (IRM).**	a. Meetings are organized with active participation	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis:

Table 4c –Best Practices	Metrics	Implementation
BP 4c-3 – **States encourage sharing of best practices in investigation techniques, processes and technology.**	a. Accident investigation best practices shared; b. Membership and participation in ISASI	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: The use of ECCAIRS, ECCAIRS database facilitates the sharing of data. The Regional Office has organized an annual Accident Investigation Workshop as an annual event for the last three years to encourage and facilitate best practices exchange.

Table 4c –Best Practices	Metrics	Implementation
BP 4c-4 – **States maintain a mandatory incident reporting system to facilitate collection of information on actual or potential safety issues with common criteria for a given category of operator.** a. States mandate and facilitate implementation of a safety events reporting system. States mandate and facilitate employment of flight recorder monitoring systems. b. States encourage the implementation of ECCAIRS software or a compatible system aimed at facilitating the exchange of safety data between States and between States and ICAO.	a. ICAO Annex 13, Paragraph 8.1, 8.2 b. ICAO Doc 9756, Part IV. c. USOAP AIG 6.405 Has the State, as the State conducting the investigation of an accident or incident, established procedures for the release of the final report as soon as possible? **N/S 7** AIG 6.501 Has the State established a mandatory incident reporting system to facilitate the collection of information on actual or potential safety deficiencies? **N/S 4** AIG 6.503 Has the State established a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system? **N/S 8**	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: a. BP – a. Implementation of this BP has been facilitated by the RAST Safety Enhancement and issue by each COSCAP of Advisory Circular related to flight data recorder monitoring. b. With the support of JRC/BEA COSCAP-NA/SEA have provided ECCAIRs training to their member administration. ECCAIRs training to be provided by BEA for COSCAP-SA in 2009. Other ECCAIRs training is being provided directly to States through other mechanisms.

Aircraft Accident and Incident Investigation Requirements for States with Limited Aviation Activity Implementation Template

1. Purpose

1.1   This document provides a brief explanation on the material developed to assist States with limited aviation activity and resources to meet their obligations related to the investigation of aircraft accidents and incidents, in accordance with the Chicago Convention and ICAO Annex 13. The outputs would also assist Member States efforts to comply with the best practices of the Global Safety Initiative 4 - Effective Incident and Accident Investigation contained in the ICAO Global Aviation Safety Plan and ISSG Roadmap.

2. Background

2.1   The ICAO USOAP programme under the Comprehensive Systems Approach has identified that many States have not established legislation, regulations, policies, and procedures to meet their obligations related to ICAO Annex 13 and implement an effective investigation system. In addition, USOAP audits have established that many States have significant shortfalls in trained staff and lack independence in the conduct of accident and incident investigations.

2.2   It is recognized that States with limited aviation activity have a lower probability of an accident or a serious incident. Even if such States have established a fully capable Accident Investigation Bureau (AIB), it is challenging for the staff of the AIB to acquire the experience that would facilitate the conduct of investigations, including major investigations.

2.3   States with limited resources would find it more difficult to establish and implement the critical elements of an aircraft accident and incident investigation system It is therefore very important that those States make use of a Memorandum of Understanding (MOU) regarding cooperation and assistance in the field of investigations. Such MOU would, among others, eliminate the duplication of efforts by States concerned. To this end, ICAO issued a model MOU in 2007 to be used by States in respect of aircraft accident and serious incident investigations. Such model MOU is available for States and can be found on the FSIX website (http://www.icao.int/fsix/)

2.4   Mindful of different needs in States with regard to aircraft accident and incident investigations, ICAO has issued numerous associated guidance material which States should be encouraged to refer to:

2.4.1 Guidance addressing the organization of an investigation, including the structure of an Accident Investigation Authority, is provided in the *Manual of Aircraft Accident and Incident Investigation,* Part I - *Organization and Planning* (Doc 9756);

2.4.2 Guidance addressing occurrence reporting is provided in the *Manual of Aircraft Accident and Incident Investigation,* Part IV - *Reporting* (Doc 9756);

2.4.3 Guidance on investigations as a whole is provided in the *Manual of Aircraft Accident and Incident Investigation,* Part III - *Investigation* (Doc 9756). It is noted that this Part has been updated and will soon be available to States;

2.4.4 Guidelines for the training of investigators are provided in ICAO Circ 298, *Training Guidelines for Aircraft Accident Investigators;*

2.4.5 Guidance on assistance to victims of aircraft accidents and their families is provided in Circ 285, *Guidance on Assistance to Aircraft Accident Victims and their Families*.

2.7   This document describes the material developed to assist States with limited aviation activity or resources to meet their obligations under ICAO Annex 13.   The material developed recognizes that States may require significant support from other States or organizations in the event of a major accident.   The material includes **Accident and Incident Investigation Model Regulations**, Models of **Accident and Incident investigation Organizations/Structures and a Model accident and incident investigation policies and procedures Manual** (hereinafter referred to as "the Manual")**.**

3. Accident and Incident Investigation Model Law and Regulations

3.1   The Accident/Incident Investigation Model Law and Regulations should be adapted by States to enable them to fully implement the SARPs contained in ICAO Annex 13. In adapting these Laws and Regulations, States should take into account the national/local environment, including aspects of their legal and judicial systems that may limit their ability to fully meet some of the provisions contained in ICAO Annex 13, especially those contained in paragraph 5.12 therein. Use should also be made of relevant ICAO guidance material covered in items 2.4 and 2.5 above

4. Accident/Incident Investigation Organization and Procedures Manual

4.1   The content of the Manual is based on the provisions of ICAO Annex 13 and the related guidance material.

4.2   As it is recognized that it may not be feasible for States with limited aviation activity to establish and maintain a full time dedicated Accident Investigation Bureau, the Manual describes the possible investigation organizations/structures to be in place, by such States to ensure the best possible level of compliance with the provisions of ICAO Annex 13, and in particular to ensure independence in the conduct of accident and serious incident investigations.

4.3 The system described in the Manual may depend upon a State establishing a formal MOU with other States and/or organizations, either for the provision of technical assistance or for the delegation of some or all accident and serious incident investigations. ICAO has issued a model MOU for the cooperation and assistance during accident and incident investigations, available on the ICAO FSIX website (http://www.icao.int/fsix/).

4.4. The system described in the Manual may also depend upon a State entering into an agreement with other States to form a regional/sub-regional pool of aircraft accident and incident investigators (available to all these States), or even a regional/sub-regional aircraft accident and incident investigation authority.

4.5   The Manual also addresses the training and qualifications of the technical staff of the State designated to carry out investigation tasks. The Manual provides the necessary policies, procedures and checklists to assist the relevant staff in fulfilling its responsibilities, from the initial notification of the accident or incident, up to the publication of the final investigation report.
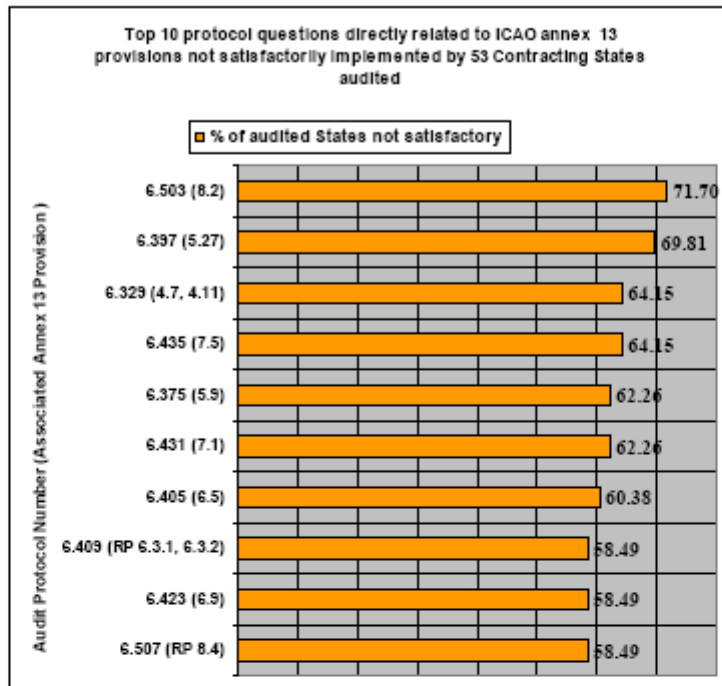
Aircraft Accident and Incident Investigation

Figure 16

Figure 16 reflects the top-ten not-satisfactory aircraft accident and incident investigation protocol questions related to an ICAO Annex Standard for the 53 States audited. A majority of audited States has not established policies and procedures related to their participation in investigations conducted by other States, either as State of Registry, State of the Operator, State of Design, State of Manufacture or State having suffered fatalities to its citizens. Specifically, procedures and checklists are often missing to ensure that accredited representatives and advisers are appointed, and to communicate, without delay, details on the crew, the aircraft or other relevant elements to the State conducting the investigation. Approximately 60 per cent of the audited States preliminary and data reports is not forwarded, as required, to the States concerned and to ICAO. Policy or procedures are missing to ensure that the final report is completed and released as soon as possible, and that safety recommendations are issued when necessary. In more than 50 per cent of the States, final reports are completed without having sent the draft final report to the States and organizations concerned. Despite the existence of confidential reporting systems within the industry, few States have implemented voluntary confidential reporting systems at the level of the State. In addition, 58.5 per cent of the States audited has not yet established an aircraft accident and incident database to enable the storage and analysis of safety data.

Audit Protocol No.	Audit Protocol question	Associated Annex provision	# of audited States not satisfactory	% of audited States not satisfactory
6.503	Has the State established a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system?	Annex 13 RP 8.2	38	71.7
6.397	Has the State, as a State having suffered fatalities or serious injuries to its citizens, established procedures for sending an expert to the State of Occurrence?	Annex 13 STD 5.27	37	69.8
6.329	Has the State, as the State of the Operator, established procedures for providing the State conducting the investigation with the details of dangerous goods on board the aircraft with a minimum of delay and by the most suitable and quickest means available?	Annex 13 STD 4.7 STD 4.11	34	64.1
6.435	Does the State prepare and send accident data reports to ICAO, involving aircraft of a maximum mass of over 2,250 kg, as soon as practicable after the investigation?	Annex 13 STD 7.5	34	64.1
6.375	Has the State made arrangements with the appropriate authorities to ensure that autopsy examinations are carried out?	Annex 13 STD 5.9	33	62.3
6.431	Does the State prepare and send preliminary reports, when the aircraft involved in an accident is of a maximum mass of over 2,250 kg, to all involved States and ICAO?	Annex 13 STD 7.1	33	62.3
6.405	Has the State, as the State conducting the investigation of an accident or incident, established procedures for the release of the final report as soon as possible?	Annex 13 STD 6.5	32	60.4
6.409	Does the State, as the State conduction the investigation, send a copy of the draft final report for comment: 1. Through the State of the Operator to the operator? 2. Through the State of Design and State of Manufacture to the organizations responsible for the type design and the final assembly of the aircraft?	Annex 13 RP 6.3.1 RP 6.3.2	31	58.5
6.423	Does the State, as the State conducting the investigation of accidents or incidents, address, when appropriate, any safety recommendations arising from its investigations to accident investigation authorities in other State(s) concerned and, when ICAO documents are involved, to ICAO?	Annex 13 STD 6.9	31	58.5
6.507	Has the State established an accident and incident database for facilitating the effective analysis of information obtained, including that from its accident and incident reporting systems?	Annex 13 RP 8.4	31	58.5

COSCAP/RAST States Implementation

of

GASP/GASR Best Practices

Global Safety Initiative 5 – Inconsistent Coordination of Regional Programs General Summary

Global Safety Initiative 5 – Inconsistent Coordination of Regional Programs General Summary

Many of the Roadmap Global Safety Initiatives are very broad in nature, so it will be very important for the RAST to develop a mechanism for assessing the risk reduction to be achieved and then prioritize the activities that have the greatest potential to reduce risk. The Metric in Table 5a (BP 5a-1) and the first Metric in Table 5a (BP 5a-2) should be modified to be more specific in nature.

Therefore, it is suggested that the first Metric in Table 5a be amended to read, "Existing COSCAP's should establish a mechanism to lead and track implementation of the Global Aviation Safety Roadmap." And it is suggested that the first Metric in Table 5b be amended to read, " Industry and governments sponsored associations organize and coordinated their efforts to avoid duplication"

In addition, it is suggested that the Metric in Table 5b (BP 5b-1) be expanded to read, "Risk assessment techniques are adopted by regional safety groups worldwide or the results of risk assessments prepared by other organizations are used by regional safety groups worldwide." Some groups may not have the technical capability to complete detailed risk assessments; the metric should allow them to use the results of other groups. Due to the nature of aviation, the contributing factors in an aviation accident or incident are common worldwide. Even though the level of the resulting risk may be higher one region than another, the safety enhancements developed to reduce a particular risk would be applicable and effective worldwide.

Global Safety Initiative 5 – Inconsistent Coordination of Regional Programs

Table 5a –Best Practices	Metrics	Implementation	
BP 5a-1 – **COSCAPS encourage implementation of best practices consistent with *Roadmap* Focus Areas for their region.**	a. Existing COSCAP's organize their regulatory efforts and safety-enhancement initiatives in accordance with the *Global Aviation Safety Roadmap* and track progress as a planned activity. b. COSCAP's share knowledge and best practices across regions.	□ Complete X Somewhat □ Little/None □ Not Applicable Analysis: a) The three COSCAP programmes of the Asia Pacific (South Asia, North Asia and South East Asia) have integrated the GASP/Roadmap into their programmes by decision of the three respective Steering Committee Meetings. Furthermore the Terms of Reference to the Regional Aviation Safety Teams (RAST) have been amended to establish the RAST as the mechanism to lead and track implementation of the Roadmap. b) While there are occasions where Asia Pacific COSCAPs may link with other COSCAP type programmes in other regions there is no mechanism and policy requiring best practices to be exchanged with other regions. While ICAO Headquarters staff may attend COSCAP Meetings and all Discussions Papers and Decision Records are sent to HQ, it is not known if these are shared with other region. All three COSCAP programmes have websites that allow information to be viewed and downloaded. 2009-06 Need a best practices website to facilitate sharing information. Items would include OPI for each posted topic. COSCAPs should include in its IFAPM specific provisions for	

		coordination.
		Actions 1. ICAO Mitch Fox to pursue global coordination with ICAO 2. COSCAPs to develop specific policies addressing coordination with Asian COSCAPs and ICAO Regional Office, for the approval of their Steering Committee.

Table 5a –Best Practices	Metrics	Implementation
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.** a. Existing groups (e.g. PAAST, ASET, AAPA, IHST, ESSI, and FAST) identify safety issues and mitigating enhancements, and are coordinating safety efforts. b. Industry supports existing, and encourages the formation of new, joint industry-government associations within the States of a region to coordinate and implement safety-related efforts. c. Regions, with the assistance of the safety group, develop their own safety risk metrics and rationale, preferably based upon those already developed by regions with more mature programs.	a. Industry and government-sponsored associations organize and coordinate their efforts in accordance with the Global aviation safety *Roadmap*. b. Industry and government-sponsored associations share knowledge and best practices across regions. c. Number of effective joint industry-government associations formed at the state level.	□ Complete X Somewhat □ Little/None □ Not Applicable Analysis: The three COSCAP programmes in Asia Pacific have had Regional Aviation Safety Teams for almost seven years. Both government and industry representatives actively participate in all Asian safety team meetingsin order to facilitated the coordination of government and industry safety efforts. Data received from the CAST review of accident/incident reports is shared among Asian COSCAP member States. CAST Safety Enhancements are implemented as required to reduce accident risk in the region. Information from CAST, ESSI, etc. is routinely reviewed and implemented as appropriate. Need to represent entire region (e.g., Japan, PASO) ACTION: ICAO Regional Office requested to invite all States to participate in Safety Team Meetings

Table 5a –Best Practices	Metrics	Implementation
BP 5a-3 – **The more advanced regions assist the less advanced regions in acquiring the necessary knowledge and experience.** a. Support and assistance group. b. State to State programs are established when indicated. c. Exchange of Staff.	a. Number of agreements	□ Complete X Somewhat □ Little/None □ Not Applicable Analysis: COSCAP mechanism (both at the RAST and Steering Committee Meetings) serves as a vehicle to encourage best practices exchange and sharing of information. Data received from the CAST/ESSI review of accident/incident reports is shared among Asian COSCAP member States. CAST/ESSI Safety Enhancement are implemented to reduce accident risk in the region. Information from CAST, ESSI, etc. is routinely reviewed and implemented as appropriate. The ICAO Regional Office also convenes a Regional Directors Asia Pacific Meeting which provides another forum for CAAs to support each other. South East Asia Regional Initiative Forum (SEARIF) and South Asia Regional Initiative Forum is a joint CAA and Industry sub-regional support and assistance group. SEARIF us focusing on SMS implementation and SARIF on 145 harmonization. ACTION COSCAP to establish linkages with APEC avoid duplication.

Table 5b –Best Practices	Metrics	Implementation
BP 5b-1 – **Regional safety groups use qualitative and quantitative risk assessment techniques to determine levels of risk.** a. Risk assessments and development and prioritization of safety enhancements to address those risks developed by national and regional groups such as CAST, ESSI, and COSCAPs North Asia (NA), South Asia (SA), and Southeast Asia (SEA) are shared worldwide.	a. Risk assessment techniques are adopted by regional safety groups worldwide.	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: The Asian COSCAP's uses the results of risk assessments made by CAST, ESSI, Flight Safety Foundation, etc., to develop and implement safety enhancements for the Region. Data received from the CAST/JSSI review of accident/incident reports is shared among Asian COSCAP member States. Risk assessment techniques will be used to develop and prioritize safety enhancements. Open for future consideration . Additional inputs to support accurate risk analysis are requested.

Table 5b –Best Practices	Metrics	Implementation
BP 5b-2 – **Industry and government use the risk assessment process to prioritize, guide and coordinate the allocation of resources among and within regions.** a. Allocation takes into account potential blockers and enablers that will affect the potential success of the	a. Allocation of resources by regional safety organizations, industry, and ICAO is guided by risk assessments as well as unique local constraints and	□ Complete □ Somewhat □ Little/None □ Not Applicable Analysis: With the support of FAA CAST Regional Aviation Safety Teams in Asia have selected for implementation those safety enhancements that will provide the greatest risk reduction.

safety enhancing activities.	enablers.	Risk assessment techniques will continue to be utilized.

ACTION
COSCAP to explore a mechanism to integrate Industry participation so as to implement the GASP / GASR focus areas 6 to 12.