PROPOSED RASG-APAC PRIORITIES AND TARGETS

Note: Targets that are proposed to be placed on the ICAO Regional Performance Dashboard are denoted with "[RPD]"

I.   **Reduction of operational risks**
According to the APAC Annual Safety Report, the percentage of global fatal accidents attributed to the APAC region has increased from 11% in 2008 to 25% in 2011. The report has also identified Loss of Control In-flight (LOC-I), Controlled Flight Into Terrain (CFIT) and runway safety related accidents as the main contributing factors to fatal accidents in the APAC region, which is in line with the analysis in the ICAO Global Aviation Safety Plan.

Action – Implement priority Safety Enhancement Initiatives (SEIs)
- RASG-APAC should continue its focus on the development of the current SEIs to address the priority areas of LOC-I, CFIT and Runway Safety.
- RASG-APAC should continue to provide implementation support to States and industry.
- States and industry should likewise accord priority to the implementation of these SEIs.

Targets:
- RASG-APAC to complete the development of currently identified priority SEIs by end 2016.
- States and industry to complete the implementation of all priority SEIs in RASG-APAC work programme by 2018.
- *[RPD]* Reduction in the number of fatal accidents in 2018 compared to 2014 irrespective of the volume of air traffic in the APAC region

Metric:
- Number of fatal accidents irrespective of the volume of air traffic in the APAC region.

II.   **Improvements to safety oversight and compliance**
Recognising that the APAC region has one of the fastest air traffic growth rates and that effective safety oversight systems are crucial in ensuring high standards of safety, States should enhance their safety oversight system as a high priority.

Action – Enhance safety oversight systems through capacity building
Capacity building is an important element to enhance safety oversight capabilities. Considering that ICAO's last comprehensive systems approach audit cycle showed that the highest lack of effective implementation (52%, please see Figure 1 below) was in the area of CE 4 "qualified personnel", programmes should be initiated to increase the number of qualified inspectors in the region. A dedicated task force should be established by APRAST to develop an action plan on capacity building.
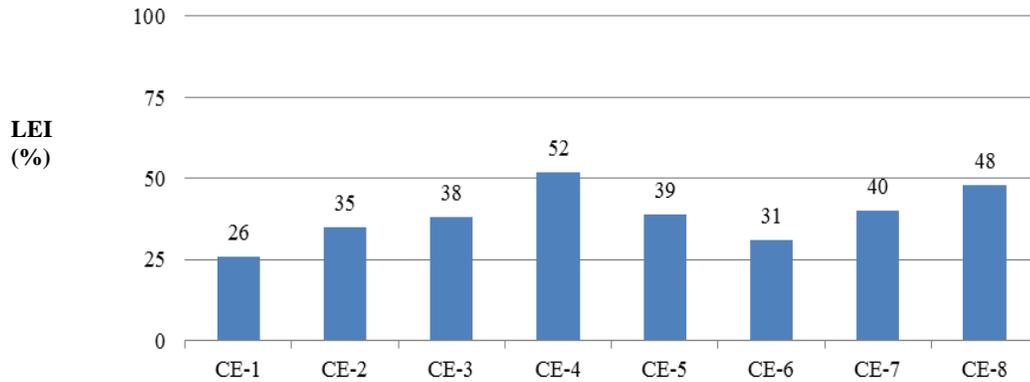
Figure 1 LEI by CE – APAC region

Action – Resolve Significant Safety Concerns (SSCs)

States should accord the utmost priority to the resolution of any SSCs identified by the ICAO Universal Safety Oversight Audit Programme Continuous Monitoring Approach (USOAP CMA) programme. States with SSCs should draw on the necessary resources available, including technical assistance from other States and regional programmes such as COSCAPs, where necessary, to resolve the SSCs promptly.

Action – Use of the IATA Operational Safety Audit (IOSA) and the IATA Standard Safety Assessment (ISSA)

IOSA registered carriers have demonstrated safety performance more than 2 times better than that for non-registered operators for the period between 2008 and 2013. IOSA can be utilised as an effective tool for States to evaluate operational capability and to establish level of confidence of air operators. Airlines are encouraged to pursue IOSA registration as a means to strengthen their safety management and compliance. States should consider various options to leverage IOSA from including recognition of IOSA to encouraging IOSA registration for all applicable operators. ISSA is a new safety programme, applicable to smaller operators whose aircraft or business model does not meet the eligibility criteria of IOSA. States are also encouraged to promote ISSA registration for all applicable operators.

Action – Use of the IATA Safety Audit for Ground Operations (ISAGO) to improve ground safety

Aircraft ground damage is a significant APAC issue and contributes to a global figure of nearly US$ 4-billion annual loss in terms of damage and injury. ISAGO aims to improve safety oversight of ground service providers, promptly identify ground operation activities with higher risks and reduce the number of accidents related to ground operations. With these aims in mind, operators are encouraged to pursue ISAGO registration for ground service providers for enhancement in aviation safety.

Targets:
- Task force (to be formed by APRAST) to develop an action plan on capacity building by December 2015.
- *[RPD]* States to resolve any SSCs identified by the ICAO USOAP CMA programme promptly within the timeline specified in the corrective action plan and agreed to by ICAO

- *[RPD]* States to achieve at least 60% EI in USOAP CMA by 2017.
- Maintain at least 60% of applicable APAC airlines to be IOSA certified by the end of 2017.
- Achieve at least 15% of applicable APAC airlines to be ISSA certified by the end of 2017.
- Pursue at least a 50% increase in ISAGO registrations by end of 2017.

   Metrics:
- APAC States' ICAO USOAP CMA effective implementation rate
- Registration rate for IOSA and ISAGO

III. **Consistent and effective Safety Management Systems (SMS) and State Safety Programmes (SSP)**

The growing air traffic in the APAC region and the increasingly complex operating environment necessitate the involvement of both industry and States in ensuring high levels of safety. During the period between 2008 and 2012, 27% of APAC accidents involved deficiencies in safety management while 33% of the accidents in APAC involved deficiencies in regulatory oversight. Effective implementation of SMS is essential for the industry to identify hazards and resolve safety concerns. The robust implementation of the SSP also enables States to focus their safety oversight resources where they are most needed.

   Action – Support robust implementation of SMS and SSP
- RASG–APAC should facilitate the sharing of best practices amongst States in the region on SMS and SSP.
- States should accord priority to the implementation of SMS and SSP to achieve an acceptable level of safety in aviation operations
- APAC COSCAPs should focus on assisting States in the implementation of SMS and SSP.

   Targets:
- *[RPD]* Industry, particularly airlines, aviation training organisations, maintenance and repair organisations, airport operators, air navigation service providers, organisations responsible for the type design or manufacture of aircraft and aviation service providers to implement SMS by 2017
- *[RPD]* States to implement the full ICAO SSP by 2022

   Metrics:
- Number of organisations that have implemented SMS as a percentage of the number of organisations required to implement SMS
- Number of States that have implemented SSP

IV. **Predictive risk management and advanced regulatory oversight**

The evolution from reactive to predictive safety management and data-driven regulatory oversight systems hinges on the availability of high quality safety data. Proper risk management and oversight is also reliant on the effective investigation of accidents and incidents in order to prevent recurrence.

Many APAC States have yet to fully implement ICAO Annex 13 requirements for accident investigation (53% - please see Figure 2 below). AIG AWG recommendations offer guidance to States to at least meet the minimum requirements. Implementation of these recommendations would help to improve each State's capacity to effectively investigate

accidents and serious incidents and should also enhance the level of reporting by States to assist in the identification of regional safety issues and trends.
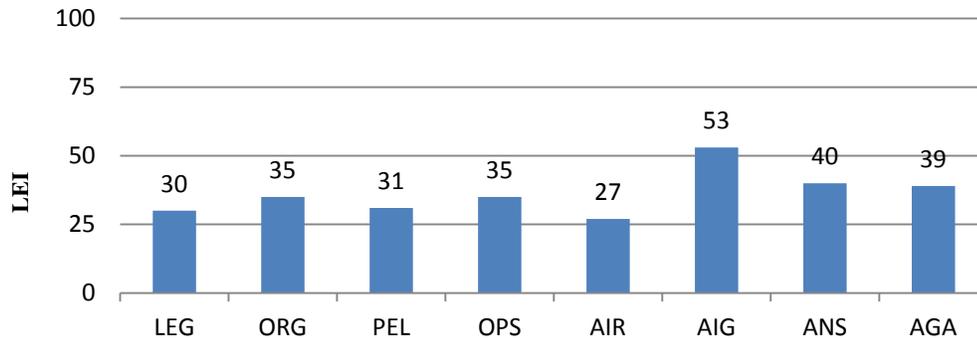
Figure 2 LEI by area - APAC region

Furthermore, APAC States often lack the resources and expertise to manage and collect data on a State level and there are currently no formal mechanisms in place that allow for the sharing and benchmarking of information at the regional level.

Finally, while many air operators in APAC have Flight Data Analysis Programmes, many have yet to fully incorporate the data into their risk management decision-making and few are leveraging on the valuable information available from external data-sharing platforms such as the IATA Flight Data Exchange (FDX) or the FAA Aviation Safety Information Analysis and Sharing (ASIAS) programmes.

Action – Implementation of AIG AWG recommendations to address Annex 13 requirements
States should consider it a priority to implement the APAC AIG's recommendations.

Action – Establish a structure for safety data collection, analysis and sharing
RASG–APAC should establish an action plan that facilitates the use of standardised taxonomies for data collection in the region. Standardised taxonomies, for example in the description of safety occurrences, ramp inspection outcomes and definitions of audit findings, would facilitate the benchmarking and sharing of data among States. In the longer term, RASG-APAC should put in place a structure for the collection, analysis and sharing of safety and operational data in the region in support of predictive risk management.

Action – Establish a mechanism for regional data collection and sharing
RASG-APAC should facilitate initiatives to develop regional data collection, analysis and sharing systems, including collaboration with existing data sharing systems ASIAS and IATA FDX programmes, with support from States and industry.

Targets:
- *[RPD]* States to achieve at least 60% EI in AIG of USOAP CMA by 2017
- To develop regional mechanism for data collection, analysis and sharing by 2017.
- 50% of APAC air operators participating in flight data sharing initiative by 2016.
- APAC States to provide assurance that predictive risk management is fully effective by 2027

Metrics:
- States' ICAO USOAP CMA EI rate for AIG module

V. Enhanced Aviation Infrastructure

Air Traffic Services
Sustainable growth of the international aviation system will require the introduction of advanced safety capabilities (e.g. full trajectory-based operations) that increase capacity while maintaining or enhancing operational safety margins. The long-term safety objective is intended to support a collaborative decision making environment characterised by increased automation and the integration of advanced technologies on the ground and in the air, as contained in ICAO's Aviation System Block Upgrades (ASBUs) strategy.

Aerodrome Facilities
Particular attention should be paid to runway safety. Most aerodromes in the region are not certified due to lack of capacity of their respective regulatory authorities. The aerodrome and ground aids (AGA) CMA module has one of highest levels of lack of effective implementation (39%, see Figure 2 above). In 2012, 13% of APAC accidents included threats that were related to the malfunction or unavailability of ground based navigation aids. During the period between 2008 and 2012, 30% of the accidents in APAC were runway excursions.

Action – Coordination with APANPIRG
- Support the implementation of ASBU and ensure their implementation accounts for and properly manages existing and emerging risks (i.e. approaches with vertical guidance (APV) to mitigate CFIT and runway excursion).
- Jointly develop the proper structures to sustain the collection and sharing of regional ATM data.

Action – Promotion of Effective Implementation of AGA
- RASG-APAC should promote effective implementation of AGA, with focus on runway safety programmes that support the establishment of Runway Safety Teams (RSTs) and implementation of inter-organisational SMS and Collaborative Decision Making schemes.

Targets:
- Implement structures between RASG and APANPIRG to facilitate collection and sharing of ATM data by end 2015
- *[RPD]* States to achieve at least 60% EI in AGA of USOAP CMA by 2017
- Promote runway safety through workshops and seminars at least yearly
- All aerodromes in APAC region that are used for international operations to have RSTs by 2017

Metrics:
- Structures in place to collect and share regional ATM data
- States' ICAO USOAP CMA EI rate for AGA module
- Number of runway safety seminars, workshops or other events at APRAST or RASG-APAC
- Number of aerodromes with RSTs in APAC region that are used for international operations.

APPENDIX

APANPIRG Regional Priorities, Targets and Metrics

Priority	ASBU module or Seamless Element	Targets	Target date (Seamless ATM Phase 1 Plan)	Metric
PBN	B0-APTA	1. <u>Approach</u>: Where practicable, **all high- density aerodromes** with instrument runways serving aeroplanes should have precision approaches or APV or LNAV. *Note 1: High density aerodrome is defined by Asia-Pacific Seamless ATM Plan as aerodromes with scheduled operations in excess of 100,000/year.* *Note 2: the Asia/Pacific PBN Plan Version 3 required RNP APCH with Baro-VNAV or APV in 100% of instrument runways by 2016*	12 November 2015	% of **high density aerodromes** with precision approaches or APV or LNAV.
Network Operations	B0-NOPS	2. **All High Density FIRs** supporting the busiest Asia/Pacific traffic flows and high-density aerodromes should implement ATFM incorporating CDM using operational ATFM platform/s. *Note: **High Density FIRs** are defined as:* *a) South Asia: Delhi, Mumbai;* *b) Southeast Asia: Bangkok, Hanoi, Ho Chi Minh, Jakarta, Kota Kinabalu, Manila, Sanya, Singapore, Vientiane; and* *c) East Asia: Beijing, Fukuoka, Guangzhou, Hong Kong, Kunming, Incheon, Shanghai, Shenyang, Taibei, Wuhan.* *[APANPIRG Conclusion 22/8 and 23/5 refer]*	12 November 2015	% of **High Density FIRs** supporting the busiest Asia/Pacific traffic flows and high density aerodromes using operational ATFM platforms incorporating CDM

Priority	ASBU module or Seamless Element	Targets	Target date (Seamless ATM Phase 1 Plan)	Metric
Aeronautical Information Management	B0-DATM	3. ATM systems should be supported by digitally-based AIM systems through implementation of **Phase 1 and 2 of the AIS-AIM Roadmap**	12 November 2015	% of Phase 1 and 2 AIS-AIM elements completed
Flight and Flow Information for a Collaborative Environment (FF-ICE)	B0-FICE	4. All States between ATC units where transfers of control are conducted have implemented the messages ABI, EST, ACP, TOC, AOC as far as practicable.	12 November 2015	% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs
Civil/Military	B0-FRTO	5. Enhanced En-Route Trajectories: All States should ensure that SUA are regularly reviewed by the appropriate Airspace Authority to assess the effect on civil air traffic and the activities affecting the airspace.	12 November 2015	% of States in which FUA is implemented
Civil/Military	Strategic Civil Military coordination (Regional)	6. Enhanced En-Route Trajectories: All States should ensure that a national civil/military body coordinating strategic civil-military activities is established.	12 November 2015	% of States which have established a national civil/military body that performs strategic civil-military coordination
Civil/Military	Tactical Civil Military coordination (Regional)	7. Enhanced En-Route Trajectories: All States should ensure that formal civil military liaison for tactical response is established.	12 November 2015	% of States which have established a formal civil military liaison for tactical response

Priority	ASBU module or Seamless Element	Targets	Target date (Seamless ATM Phase 1 Plan)	Metric
Ground Surveillance	B0-ASUR	8. All Category S upper controlled airspace and Category T airspace supporting high density aerodromes should be designated as non-exclusive or exclusive as appropriate ADS-B airspace requiring operation of ADS-B.	12 November 2015	% of FIRs where Category S airspace and Category T airspace supporting high density aerodromes are designated as ADS-B airspace
Ground Surveillance	B0-ASUR	9. ADS-B or MLAT or radar surveillance systems should be used to provide coverage of all Category S-capable airspace as far as practicable, with data integrated into operational ATC aircraft situation displays.	12 November 2015	% of ACCs with ATS Surveillance using ADS-B, MLAT or radar in Category S airspace, and having data integrated into the ATC system situation display
Trajectory-Based Operations-Data Link En-Route	B0-TBO	10. Within Category R airspace, ADS-C surveillance and CPDLC should be enabled to support PBN-based separations.	12 November 2015	% of FIRs using data link applications to support PBN-based separations in Category R airspace

Note 1: **high density aerodromes:** based on 2012 ICAO data, as per Seamless Plan v1.0, the 21 busiest Asia/Pacific aerodromes were:
- Australia (Sydney, Melbourne);
- China (Beijing, Shanghai Pudong and Hong Jiao, Guangzhou, Hong Kong, Xi'an, Shenzhen, Chengdu, Kunming);
- India (New Delhi, Mumbai);
- Indonesia (Jakarta);
- Japan (Haneda, Narita);
- Malaysia (Kuala Lumpur);
- Philippines (Manila);
- Republic of Korea (Incheon);
- Singapore (Changi); and
- Thailand (Suvarnabhumi).

ICAO definition for Aerodrome traffic density included in Annex 14 is:
c) Heavy. Where the number of movements in the mean busy hour is of the order of 26 or more per runway or typically more than 35 total aerodrome movements.
Note 1.— The number of movements in the mean busy hour is the arithmetic mean over the year of the number of movements in the daily busiest hour.
Note 2.— Either a take-off or a landing constitutes a movement.