Ministry of Land Infrastructure Transport and Tourism

C I V I L   A V A T I ON   B U R E A U   O F   J A P A N

Session 4 : Issues and Challenges for PBCS Implementation in APAC Region

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and FIT-Asia/5

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Issues for APAC regions

✓ Considering the success of PBCS framework, all stakeholders need to work collaboratively in many fields. Possible (main) challenges and/or issues to be overcome are listed as below. Each stakeholder must identify and deal with own task. All task shall be completed before 10 November 2016.

    a)   <u>Policy making</u>
          1. When/Where/How will PBCS be implemented ?

    b)   <u>Certification process for sub-system on board</u>
          1. What kind of data is required in order to certify compliance of sub-system? (CRA can provide ACP/ASP data to manufactures)

    c)   <u>Operational approval process for RCP/RSP specification</u>
          1. How long do we need to complete approval process by aircraft operators and regulator?
          2. When will guidance material be issued to stakeholders? (AC-90-PBCS by FAA)
          3. What training program is required for Operators/ATC?
          4. What prescription should be included in "agreement" among Operators and CSP/SSPs?

    d)   <u>Application of specific ATM operations including separation standards applied</u>
          1. How to realize "seamless" ATM operation among FIRs? (If one applies with P-code, other does not…)
          2. What items should be prescribed in AIP ?

Issues for APAC regions (Continued.)

e) <u>Monitoring process</u>
1. How to establish or develop mechanism of "Sharing Information", "Corrective actions" within States and among FIRs/regions ?
2.How to check each post implementation analysis by ICAO?

f) <u>Data sharing including results of the safety monitoring process</u> <u>(based on PBHSM)</u>
1.Who has responsibility for the monitoring ? (RMA, EMA or...?)
2.How to establish "database" for confirmation of PBC/PBS approval status?
3.How to gather/exchange the information of approval status of aircraft beyond States?

g) <u>Framework for required corrective actions</u>
1.Who has responsibility to execute the actions? (Who is "States" in documents?)
2.How to get contact list of all stakeholders?

Issues for APAC regions (Continued.)

Some of challenges/issues prescribed here might be difficult for some contracting states

✓ PBCS manual, GOLD can help to facilitate our preparation.

✓ ICAO APAC regional Office should lead the regional transition strategy in cooperation with the State of Registry, State of Operator, Aircraft Operators, ANSPs, CSP/SSP.

✓ Collaborative work with ICAO HQs and other regional Office such as NAT can assist to accomplish our tasks.

✓ Contracting states which already applies specific ATM operations (30/30NM,50NM Lon, 5 min. using FANS1/A) should cooperate with APAC regional Office to support tasks from regulatory, technical and operational perspective.

✓ All contracting states of this region must lead and assist stakeholders in your country.

Back up slides

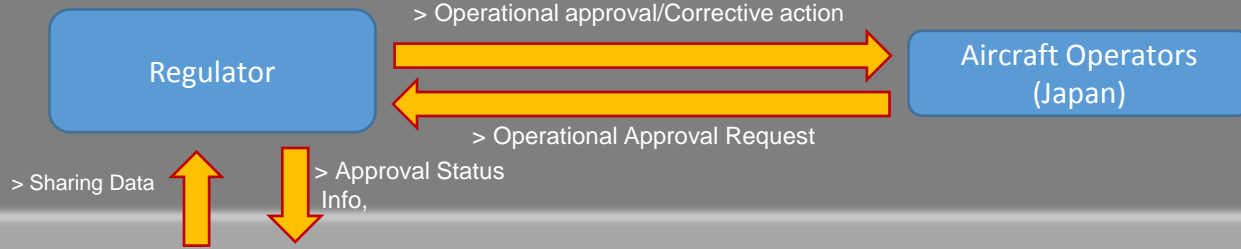# National Transition Strategy – Check list and management of strategy

- ✓ JCAB made a check list for PBCS implementation.
- ✓ The list was developed based on Appendix A of Doc. 9869
- ✓ All stakeholders (Regulators, ANSP, Aircraft Operators, CSP/SSP and ESP) involved.

ID	Task Descriptor	Task Detail& IDs	Name of Divisions	Due date	Status	Remarks	ICAO reference
Group A tasks – State/region preparation							
A-1	AIP – Prescription of an RCP/RSP specification	Prescribe the appropriate RCP/RSP specification in the AIP (or equivalent publication). If applicable, common AIP language may be based on a bilateral, multilateral or regional air navigation agreement.					PBCS Manual (Doc. 9869) Chapter 4
	IDs	A-1-1: Review of the draft of AIP （including Applied separation standard, RCP/RSP specifications and others）	ATC Div.	Early July /2016	On-going	・reviewing contents.	
		A-1-2: Confirmation of the schedule to issue AIP	ANSP Div.	April /2016	Done	・draft:16/08/2016 ・Issue: 15/09/2016 ・Effective 10/11/2016	
A-2	ANSP – PBCS policies, objectives supporting safety oversight	Identify means to apply RCP/RSP specifications and compliance criteria for initial approval and continued compliance, including: a) ATS provision requirements, and requirements for ATS unit's system and CSP/SSP service agreements, if applicable; b) flight plan requirements; and c) monitoring, alerting and reporting requirements.					PBCS Manual Chapter 5 Section 5.2.1 Section 5.2.2
	IDs	A-2-1: Confirmation of policy and condition of application of specific ATM operations （Checking P-code, Operational procedures）	ATC Div.	-	On-going	・ATC system modification: 02/2018	
		A-2-2: Confirmation of operational requirement for ATC system (Indication of P-code and alert of TSD)	ATC Div. SYSTEM Div.	March /2015	Done	・Modification system: 2016-2018	
		A-2-3: Engagement of SLA with CSP/SSP (SITA, ARINC and AVICOM）	ATCT DIV.	-	On-going	・JCAB has a SLA with SITA	
		A-2-4: Confirmation of P-code/SUR in Item 10 and 18 of FPL (ICAO ANNEXs and PANS)	ATC Div. OPS. Div.	March/2015	Done	・JCAB has modified in 2012	
		A-2-5: Confirmation of PBCS monitoring program (Collecting sample date of ACP/ASP. Executing the monitoring program)	CRA	August /2015.	Done	・Stated PBCS monitoring program from 04/2015.	
		A-2-6: Information sharing with internal facilities. (Fukuoka ATMC and related Area Control Centers)	ANSP Div. ATC Div.	June /2016	On-going		

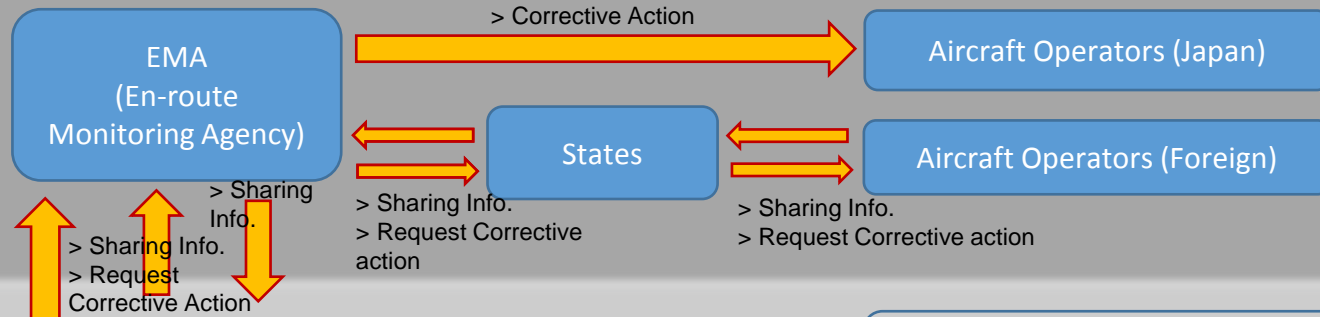# National Transition Strategy – Approval Process, Evaluation, Corrective Actions

Operational Approval
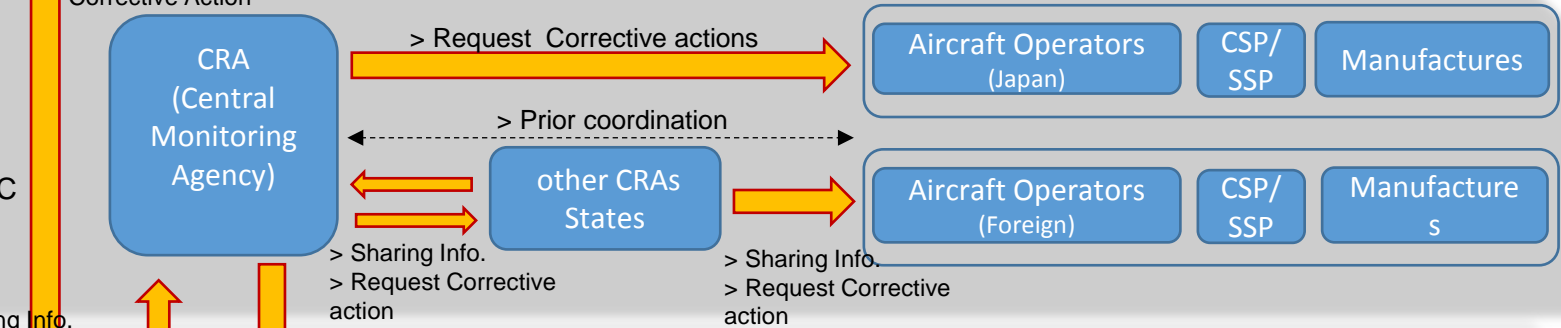
> Operational Approval Information sharing with EMA

Regulator

> Operational approval/Corrective action

> Operational Approval Request

Aircraft Operators (Japan)

> Sharing Data

> Approval Status Info,

Corrective Actions

> Check of Database (PBHSM)
> Sharing information (Info.) with Regulator and CRA Corrective actions

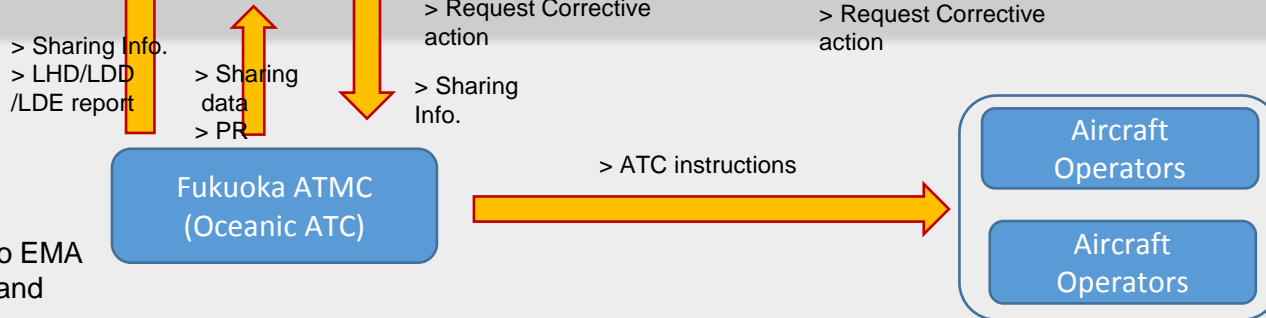**EMA (En-route Monitoring Agency)**

> Corrective Action

Aircraft Operators (Japan)

States

Aircraft Operators (Foreign)

> Sharing Info.
> Request Corrective action

> Sharing Info.
> Request Corrective action

> Sharing Info.
> Request Corrective Action

> Sharing Info.

Corrective Actions (Technical)

> PBCS monitoring
> Data sharing with EMA and ATC
> Corrective actions (Technical)

CRA (Central Monitoring Agency)

> Request Corrective actions

Aircraft Operators (Japan) | **CSP/SSP** | **Manufactures**

> Prior coordination

other CRAs States

Aircraft Operators (Foreign) | **CSP/SSP** | **Manufactures**

> Sharing Info.
> Request Corrective action

> Sharing Info.
> Request Corrective action

ATC Operations

> ATC operations
> PR
> LHD/LDD/LDE reports to EMA
> Data sharing with CRA and EMA

> Sharing Info.
> LHD/LDD /LDE report
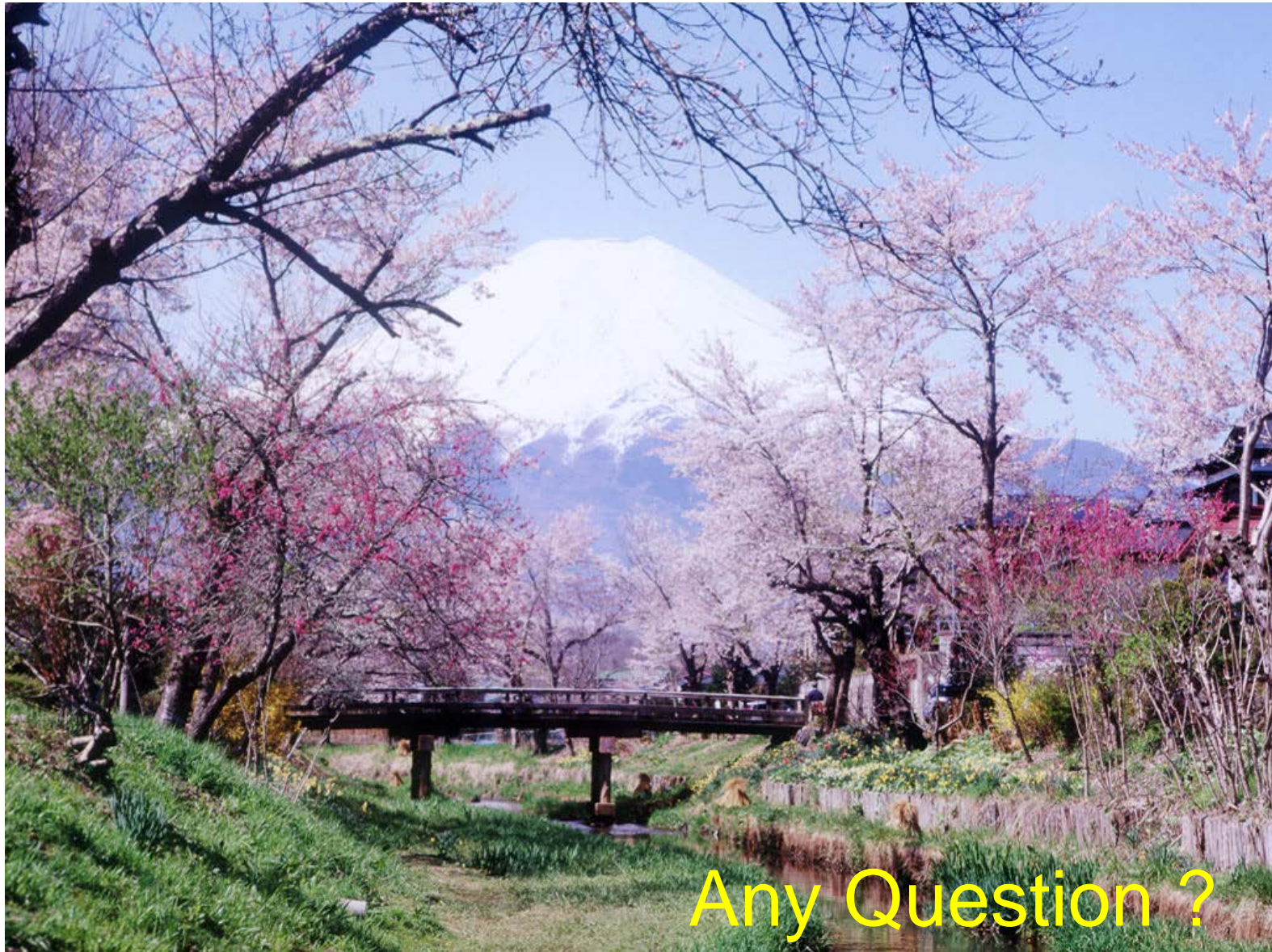
> Sharing data
> PR

> Sharing Info.

Fukuoka ATMC (Oceanic ATC)

> ATC instructions

Aircraft Operators

Aircraft Operators

Pacific FIRs Seamless PBCS Planning Chart

Section	Task Group	Task ID	TASK descriptor	Anchorage Oceanic FIR	Auckland FIR	Brisbane (Honiara & Nauru UTAs)	Fukuoka FIR	Manila FIR	Nadi FIR	Oakland Oceanic FIR	Port Moresby FIR	Santiago FIR	Tahiti FIR	Ujung Pandang FIR	Anchorage Domestic FIR	Anchorage Arctic FIR	Guam CERAP	Honolulu Control Facility	Los Angeles ARTCC	Mazatlan FIR	Oakland Domestic ARTCC	Seattle ARTCC	Vancouver ACC
PBCS Implementation Task List	Group A	A-1	AIP (Prescription of an RCP/RSP specification)																				
		A-2	ANSP (PBCS policies, objectives supporting safety oversight)																				
		A-3	Operatpr and aircraft System- PBCS policies, objectives supporting safety																				
		A-4	Regional Supplementary Procedures (Doc. 7030) for PBCS operations , if																				
	Group B	B-1	PBCS Implementaion Plan																				
		B-2	Target dates for PBCS and relevant ATM operations																				
		B-3	RCP/RSP specifications																				
		B-4	PBCS awareness																				
	Group C	C-1	Operational concepts and procedures for PBCS operations																				
		C-2	ATC automation changes to use flight plan RCP/RSP indicators																				
		C-3	ATC automation changes for PBCS monitoring																				
		C-4	Confirm initial ANSP compliance with RCP/RSP specifications																				
	Group D	D-1	Aircraft operator readiness																				
	Group E	E-1	PBCS monitoring - post implmentation																				
Cmmunication Specifications & Interoperatability Standards	Normal	RCP240	FANS1/A CPDLC	X	X	X	X		X	X		X	X	X									X
	Alternate	RCP400	SATVOICE																				
		RCP400	HF																				
Surveillance Specifications & Interoperatability Standards	Normal	RSP180	FANS1/A ADS-C	X	X	X	X		X	X		X	X	X									
	Alternate	RSP400	SATVOICE																				
		RSP400	HF																				
			ADS-B	X	X	X			O			O	X	X		X		X		X		X	X
Navigation Specifications & Applicable ATM Operations	RNAV/RNP	RNAV/RNP 10	50 NM Lateral Separation	X	X	X	X	X	X	X	X	X	X		X		X	X	X		X	X	X
			50 NM Longitudinal Separation	X	X	X	X	X	X	X	X	X	X		X		X	X	X		X	X	X
		RNP 4	30 NM Lateral Separation	X	X	X	X		X	X							X	X	X		X	X	
			30 NM Longitudinal Separation	X	X	X	X		X	X					X		X	X	X		X	X	
		RNP2	30NM Climb-Descend Through																				
			15 - 20 NM VHF Lateral Separation																				
			8NM VHF Climb-Descend Through																				
			10 MINUTE Longitudinal Separation without MNT.	X	X	X	X		X	X		X			X		X	X	X		X	X	X
			RVSM	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Other ATM Operations			ADS-C CDP	P		P				P													
			ADS-B ITP	P		P				X													
			Tactical Lateral Offsets for Climb or Descent		X	X				X													
			Tailored Arrival							X													
			CDO	O			X														X		
			UPR	X	X	X	X		X	X	X	X	X										
	DARP		Accept	X	X	X	X		X	X			X					X	X	X		X	X
			Initiate		X		X		X	X			X										

Note: Current status of each FIR is as of March 2016. Legend : X: Implemented. O : Under operational trial. P : Under planning.

Any Question ?