



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**TWENTY FIFTH MEETING OF THE
ASIA/PACIFIC AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (APANPIRG/25)**

Kuala Lumpur, Malaysia, 8 – 11 September 2014

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation
3.0: Regional and National Performance Framework
**IMPORTANCE OF STATE'S AIR NAVIGATION MODERNIZATION PLAN
AND CARATS ACTIVITIES IN JAPAN**

(Presented by Japan)

SUMMARY

This paper presents the information on CARATS activities in Japan and importance of planning of the State's air navigation modernization plan according to the actual circumstance of each State in alignment with GANP and Seamless ATM Plan. It is also important to share each State's plan to facilitate regional harmonization and interoperability for the implementation of ASBU modules. Action by the Meeting is at Para 5 to this Working Paper.

This paper relates to:

Doc 9750, *Global Air Navigation Plan*

Strategic Objectives:

*A: **Safety** – Enhance global civil aviation safety*

*B: **Air Navigation Capacity and Efficiency**—Increase the capacity and improve the efficiency of the global aviation system*

*E: **Environmental Protection** — minimize the adverse environment effects of civil aviation activities.*

1. INTRODUCTION

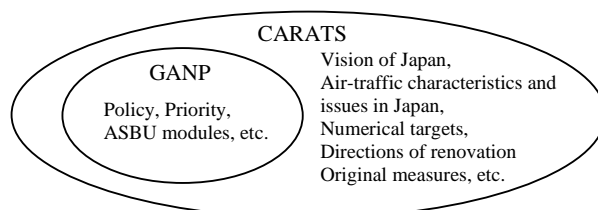
1.1 The GANP was endorsed in the 38th ICAO Assembly and the priority and target in APAC Region will be approved in this APANPIRG. All States need to promote air navigation modernization in alignment with GANP and Seamless ATM Plan. This activity is very important activity for international harmonization and interoperability.

1.2 In Japan, the CARATS (Collaborative Actions for Renovation of Air Traffic Systems) has been developed as a long-term vision in 2010, and then, we are implementing air navigation modernization based on the CARATS. The CARATS is an activity for introducing measures which is included in GANP and Seamless ATM Plan.

1.3 We promote this activity with improving framework, so, in this opportunity; we would like to recommend some important points to contribute future work addressed in each State.

2. CARATS

2.1 The CARATS is a Japanese Master Plan for air navigation modernization and it includes not only GANP items but also original contents such as analysis of Japanese air traffic characteristics, objectives with numerical targets, directions of renovation and Japanese native measures.



2.2 Specifically, we have researched recent situation surrounding Japanese air traffic and summarized various constraints, then set 7 objectives to resolve issues and to advance ANS in the CARATS. Indicators and numerical targets to be achieved by 2025 were set for these objectives.

Objective	Numerical target
Enhancing safety	Increase safety level by 5 times
Responding to the increase in air traffic volume	Double the air traffic control capacity in congested airspace
Improving user convenience	Improve service level (punctuality and reduction of flight time) by 10%
Increasing operational efficiency	Reduce fuel consumption per flight by 10%
Improving productivity of air traffic services	Improve productivity of air traffic services by 50% or more
Responding to environmental issues	Reduce CO2 emissions per flight by 10%
Enhancing the international presence of Japan in the aviation field	(Qualitative target)

2.3 Also we set 8 directions of renovation such as realization of TBO (trajectory based operation), promotion of PBO (Performance Based Operation), enhancement of situation awareness on the ground and in the air, and complete information-sharing and collaborative decision-making in the CARATS.

2.4 Moreover, based on the directions, we set 64 measures including ASBU modules and Japanese original countermeasures to address constraints in the CARATS and we also developed roadmap for each measure to monitor implementation status.

2.5 In Japan, this CARATS “Japanese long-term vision” was developed with relevant stakeholders and we are carrying out discussion and implementation of the measures based on the roadmap.

3. DISCUSSION

3.1 Necessity of the State’s air navigation modernization plan

3.1.1. Total solution for air navigation modernization

3.1.1.1 It is important to develop the State’s air navigation modernization plan including the State’s long-term vision after recognition of current status and issues when the State starts the activities in alignment with GANP and Seamless ATM Plan.

This plan becomes a basis for discussion, thus stakeholders are able to share the common understanding and common process.

3.1.1.2 It is also important to consider the balance of whole air navigation service by developing State's air navigation modernization plan including State's original countermeasures for the State's issues. The original countermeasures for the issues are as important as the ASBU modules for State's air navigation modernization.

3.1.1.3 If the States starts the activities to introduce individual ASBU module without Master plan, there is a risk that a measure is introduced without sufficient understanding about necessity of the measures and concrete specification. Moreover, even if the measure is introduced, the total system for ANS may become unbalance. In this case, the benefit such as efficiency and convenience will not be fully demonstrated.

3.1.2 Consideration from multilateral standpoints

3.1.2.1 Air Navigation Service is one of the factors to support air-traffic and there are many stakeholders such as airlines, airport authority, researcher, government and military. When addressing many measures, collaborative activities of many stakeholders will deliver overall optimization and then substantial benefit. So, when developing and implementing the State's air navigation modernization plan, the discussion should be carried out from various points of view.

3.1.2.2 Therefore, it is essential to make a framework which allows discussions among all stakeholders.

3.1.2.3 Because some measures, such as establishment of network, may need regional collaboration, it is necessary to share the State's air navigation modernization plan and to facilitate the regional harmonization and interoperability while planning domestic consensus building.

3.2 Financial consideration

3.2.1 In Japan, there are not prepared special budget for promoting the CARATS. Thus, financial consideration is every time essential to introduce new measures accordingly. There are same problems in a stakeholder such as airline. Therefore, cost-benefit analysis is necessary before introducing new measures and only the measures to which the effect was accepted are able to be introduced.

3.2.2 Following consideration is carried out to address financial issues.

- Introduction of new function and measure aligning with renewal schedule of the existing equipment
- Effectively use of private sector's capabilities
- Preferential consideration of measures which does not causes financial issue
- Cost reduction by package management from R&D to implementation

3.2.3 In any case, it is important to perform cost-benefit analysis, and to ensure cost reduction and sufficient benefit for long-term air navigation modernization. Continuous and steady implementation is realized under such consideration of financial issues.

4. CONCLUSION

4.1 The States should develop the State's air navigation modernization plan to ensure balanced and optimized air navigation modernization. The State should also establish framework consisted of all relevant stakeholders for implementing the plan.

4.2 As it is important to facilitate regional harmonization and interoperability, the State's air navigation modernization plan should be shared in the APAC Region.

5. ACTION BY THE MEETING

5.1 The Meeting is invited to:

- a) note the Working Paper;
- b) recognize the importance of the planning according to the actual circumstance of each State in alignment with GANP and Seamless ATM Plan; and
- c) promote to share actively the State's air navigation modernization plan by using APANPIRG Subgroups to facilitate the regional harmonization and interoperability for the implementation of ASBU modules.

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