



International Civil Aviation Organization

**The Fifth Meeting of the South Asia/ Indian Ocean ATM Coordination Group
(SAIOACG/05)**

Bangkok, Thailand, 03 – 06 March 2015

Agenda Item 4: Implementation of CNS/ATM Systems

UPPER AIRSPACE HARMONIZATION WITHIN THE DELHI FIR

(Presented by Airports Authority of India)

SUMMARY

This paper presents India's effort for Upper Airspace Harmonization within the Delhi FIR.

INTRODUCTION

1.1 As the traffic growth in India has been forecast to be double by 2018, the demand on ATM system is going to be manifold as far as augmentation in ATC system and human resource is concerned.

1.2 The efficiency in flight handling has to be enhanced by planning a better route structure, efficient sector planning and prudent use of the resources available. In order to achieve this entire airspace has to be more adaptable from the user point of view as well as it has to be environment friendly.

1.3 The solution for meeting the diversity of user requirements is the effective and dynamic management of the pre-designed airspace structures through a highly flexible and integrated Collaborative Decision Making (CDM) process at network, regional, national and local level.

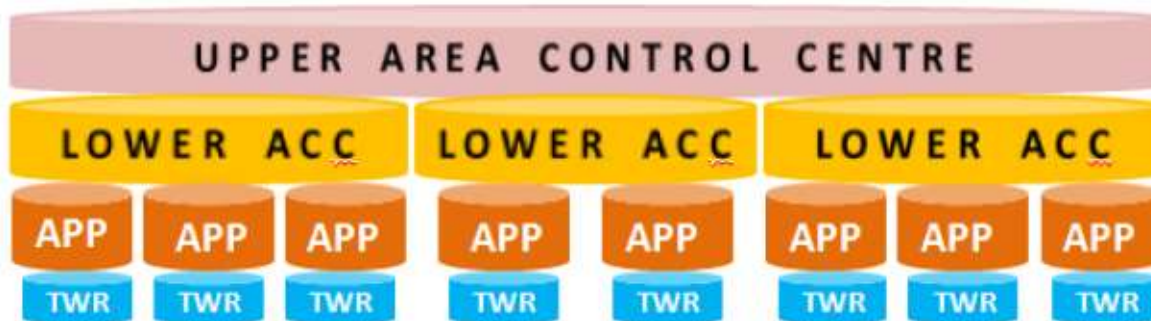
1.4 Airports Authority of India has taken the initiative to review the existing Indian airspace structure and develop a new Airspace Management Strategy to cope with the predicted impressive future growth of air traffic.

1.5 Chennai Upper Airspace Harmonization has been completed successfully.

1.6 In same line Kolkata and Delhi Upper Airspace Harmonization projects are being implemented.

2. DISCUSSION

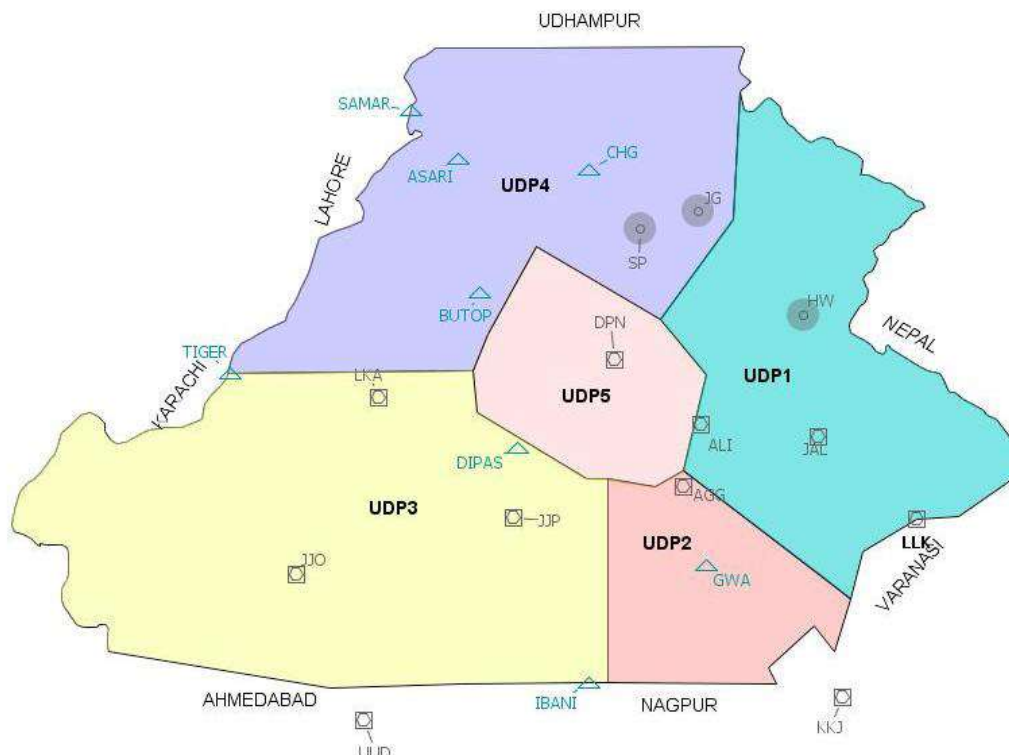
Airspace Sectorization Concept:



Upper Area Control:

2.1 The objective of upper area control is primarily to structure the entire upper airspace at and above F260 as one continuum, free from operational discontinuities, inconsistencies and differing rules and procedures, facilitate the implementation of common and uniform level of facilities and ATM automation system and tools, application of uniform separation standards and introduction and better utilization of data link communications, improved flight plan processing systems, and advanced airspace management coordination tools and message exchange capabilities, leading to progressively more flexible and dynamic management of airspace

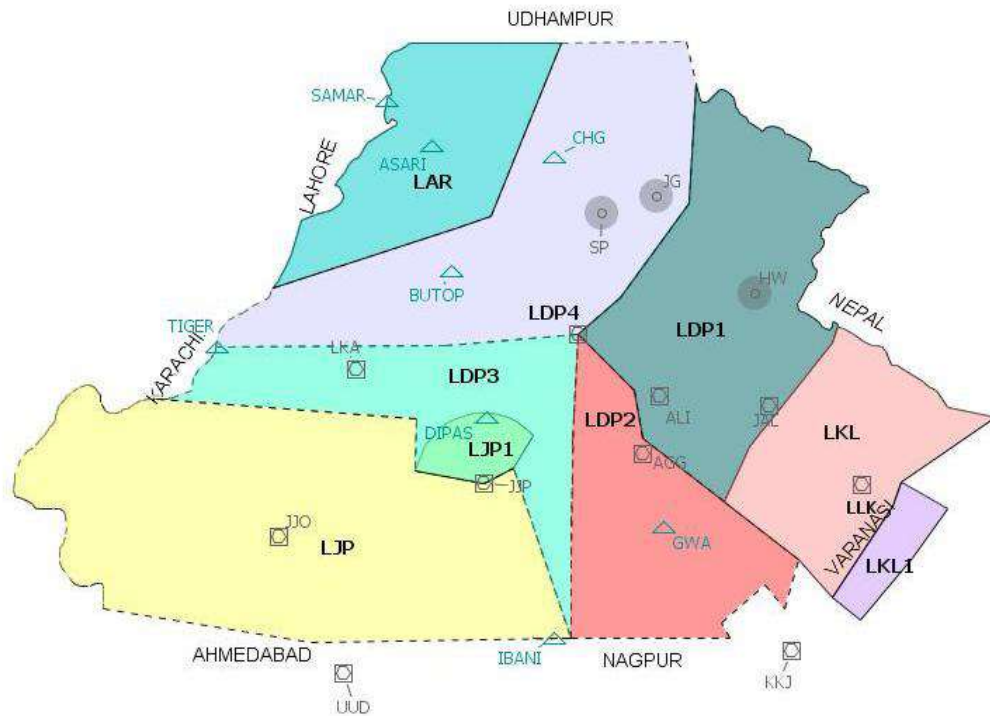
2.2 There will be total 5 upper area control sectors.



Lower Area Control

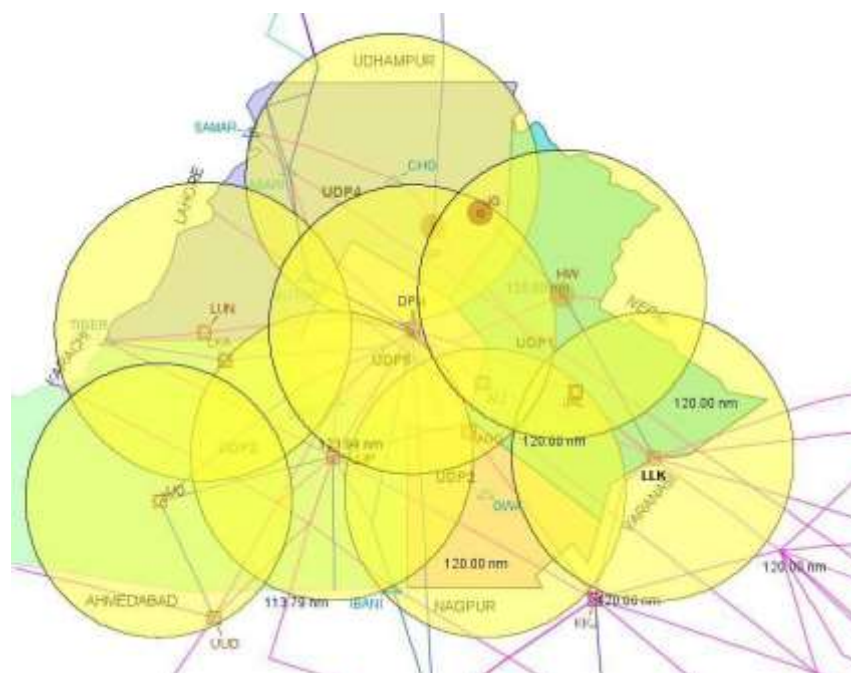
2.3 Lower Area Control sector jurisdiction will ideally be vertically from FL 160 to FL250 with lateral jurisdiction flexible based on the traffic density and flow.

2.4 There will be total 7 lower area control sectors including Jaipur, Amritsar and Lucknow LCC.



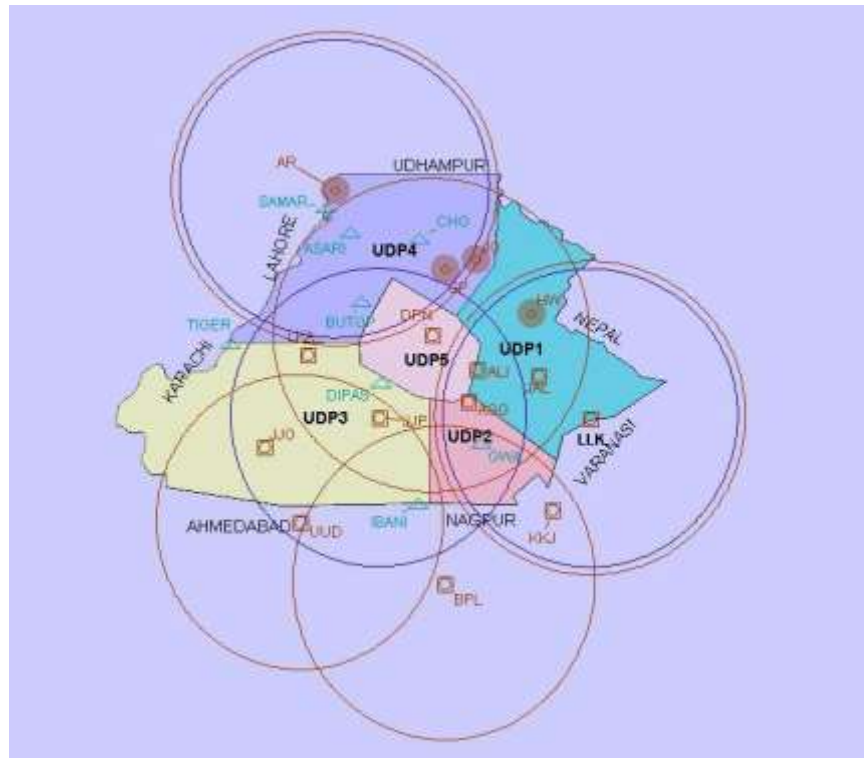
Communication

2.5 Overlapping seamless VHF coverage has been planned in the entire Upper Airspace of Delhi FIR.



Surveillance:

2.6 The entire Upper Airspace of Delhi FIR will be provided with seamless and overlapping Surveillance coverage from several Radar and ADS – B stations, strategically positioned for this purpose.



3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note India's efforts in Upper Airspace Harmonization; and
- b) discuss any relevant matters as appropriate.

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