UAE ANSP and Regulatory Safety Collaboration

UAE AIRSPACE RESTRUCTURING PROJECT Phase 3 - (UAE ARP3)

UAE ANSP and Regulatory Safety Collaboration

Presenter: Stewart Murphy

Chairman UAE ARP3 Safety Sub Group (SSG)

ANS Safety Manager GAL Air Navigation Services

Abu Dhabi Airports (ADA)

UAE ANSP and Regulatory Safety Collaboration

Today's Discussion Points

- 'Putting things into perspective' – The Aviation timeline in UAE
- The UAE Airspace Restructure Project Phase 3 – UAE ARP3 Overview
- UAE ARP3 Safety Sub Group (SSG) – Managing Effective Safety Collaboration
- UAE ARP3 Lessons Learned – Safety
- The Safety Challenges Ahead

UAE ANSP and Regulatory Safety Collaboration

‘Putting things into perspective’

The Aviation timeline in the UAE

UAE ANSP and Regulatory Safety Collaboration

1968

Abu Dhabi International Airport

UAE ANSP and Regulatory Safety Collaboration

Dubai International Airport

2016 Passenger Traffic – 83,654,250

UAE ANSP and Regulatory Safety Collaboration

Sharjah International Airport

UAE ANSP and Regulatory Safety Collaboration

Fujairah International Airport

Ras Al Khaimah International Airport

UAE ANSP and Regulatory Safety Collaboration

1996

The General Civil Aviation Authority was created by Federal Cabinet Decree

الهيئة العامة للطيران المدني
GENERAL CIVIL AVIATION AUTHORITY

United Arab Emirates

Since 1996 many new projects and innovations have been introduced such as modernization of the Sheikh Zayed Air Navigation Center and the promotion of continual development of strategy and the regulatory framework to facilitate the growth of the civil aviation industry within the UAE.

UAE ANSP and Regulatory Safety Collaboration

The UAE Airspace Restructure Project Phase 3
UAE ARP3 Overview

UAE ANSP and Regulatory Safety Collaboration

ARP3 is the culmination of years of collaboration across all aviation stakeholders within and beyond the UAE.

On December 7th 2017 the UAE will implement one of the largest airspace changes the Middle East has seen.

UAE ANSP and Regulatory Safety Collaboration

UAE ARP3 is the final phase of the UAE Airspace Restructuring Project and constitutes the 'Integration and Implementation' of conceptual airspace designs developed through both Phases 1 and 2 of the project.

The implementation will enable:

- Increase UAE Airspace capacity to meet the forecasted air traffic demand for 2020.
- Increased access to all UAE airports.
- Improved efficiency for both aviation system customers and Air Navigation Service Providers.
- Reduction in the environmental impact of the increasing traffic, through the provision of more effective ATM operations.

UAE ANSP and Regulatory Safety Collaboration

What are the main design elements?

- Optimisation of available airspace
- Enhancement of unidirectional route network
- Improvement of network efficiency and flexibility
- Incorporation of lateral separation between routes whenever feasible
- All UAE airports have been linked to the En-Route network

UAE ANSP and Regulatory Safety Collaboration

How many changes are taking place within UAE ARP3?

- Introduction of 30 new Routes
- Allocation of 407 new 5LNC and Alphanumeric Waypoints
- Incorporation of over 200 Instrument Flight Procedures (IFPs)
- Airspace boundary changes for both Dubai and Abu Dhabi CTAs
- Introduction of new En-route and CTA Sectorisations and amendments to the current design
- Requirement for over 250 Air Traffic Controllers to be trained on UAE ARP3
- 1000+ changes related to 312 new/modified route segments
- Upload of 1741 route segments related to 115 new SIDs and 111 new STARs (OMAA, OMAD, OMAL, OMDB, OMDW, OMSJ, OMFJ, OMRK)

UAE ANSP and Regulatory Safety Collaboration

What are the facts and figures involved in making UAE ARP3 a reality?

- Project Implementation Duration – 18 months
- Number of project Deliverables - 50
- Number of Workshops / Meetings – over 200
- Man hours – over 120,000 hours
- Number of UAE Air Navigation Service Providers involved – 6
- Number of Emirates of U.A.E involved - 5
- Number of Aviation Stakeholder organizations actively involved - 26
- Number of Project Representatives – over 150

UAE ANSP and Regulatory Safety Collaboration

Which key stakeholders are actively engaged within UAE ARP3?

- Enav
- Helios
- GCAA
- dans
- ADA/GAL
- Ras Al Khaimah DCA/Airport
- Sharjah DCA/Airport
- Fujairah DCA/Airport
- Dubai Airports Authority
- GCAA Air Navigation and Aerodrome
- Department of Municipal Affairs and Transport (DMAT)
- Emirates Airlines
- FlyDubai
- Etihad Airways
- Air Arabia
- UAE Military
- SkyDive Dubai
- ICAO
- IATA
- General Civil Aviation Authority – Saudi
- Kingdom of Bahrain Ministry of Transport and Telecommunications
- Civil Aviation Organisation of Islamic Republic of Iran
- Public Authority for Civil Aviation (PACA) - Bahrain
- THINK Research
- National Center of Meteorology & Seismology (NCMS)

UAE ANSP and Regulatory Safety Collaboration

UAE Edition

The National

SUBSCRIBE NOW

UAE | WORLD | BUSINESS | OPINION | ARTS&CULTURE | LIFESTYLE | SPORT

ADNOC

HOME > UAE

UAE's new air traffic management system to ease congestion in crowded skies

UAE aviation authorities unveil a revolutionary new air traffic system that promises fewer delays for passengers and lower costs for airlines

James Langton
October 18, 2017

200 shares

A screengrab from flightradar24.com of air traffic in the Arabian Gulf at 12.30 pm on October 18. Flight Radar

Battling the congested roads of the UAE is one thing. But tackling the crowded skies of the country's airspace is an even bigger challenge.

From December, though, flying through major airline hubs like Abu Dhabi and Dubai should become easier.

The end of the year will see the introduction of a new air traffic management system that uses the latest technology to safely manage the fast growing numbers of passenger jets passing through the region.

Described as: "one of the largest airspace changes the region has ever seen," the UAE Airspace Restructuring Project (ARP) connects global navigation satellites directly to computerised on board aircraft systems.

It replaces traditional aircraft navigation systems, which are largely based on land beacons which guide aircraft along specific routes using way-points.

The new system is known as Performance Based Navigation, and is described by the General Civil Aviation Authority as "world's first airspace structure" to use this technology, which allows for much greater flexibility in flight plans, and maximises the use of existing air space.

Such is the complexity of the project that the GCAA calculates is has taken over 120,000 man hours, or the equivalent of nearly 15 years, to develop.

It has also required the retraining of 250 air-traffic controllers using simulators, and the co-operation of multiple aviation authorities and airlines, including the Sheikh Zayed Air Navigation Centre, Dubai Air Navigation Services, Abu Dhabi Airports Company and Abu Dhabi Department of Transport.

When the new system goes live on December 7, the results should be good for both passengers and the environment, The GCAA estimates that the fuel savings in the first year alone will be US$15 million, and equal to a reduction of 100,000 metric tonnes of carbon dioxide into the atmosphere.

Saif Al Suwaidi, the GCAA Director General, called the changes a: "historic moment in UAE aviation history," adding: "The implementation of the UAE ARP has demonstrated our capability to safely meet the capacity requirements for the forecasted 2020 air traffic demand and beyond."

Experts agree that improvements to air traffic control in the region are desperately needed.

Read more:

Congested airspace could cost Middle East $16 billion over next decade

ADNOC

SAMSUNG

Learn more

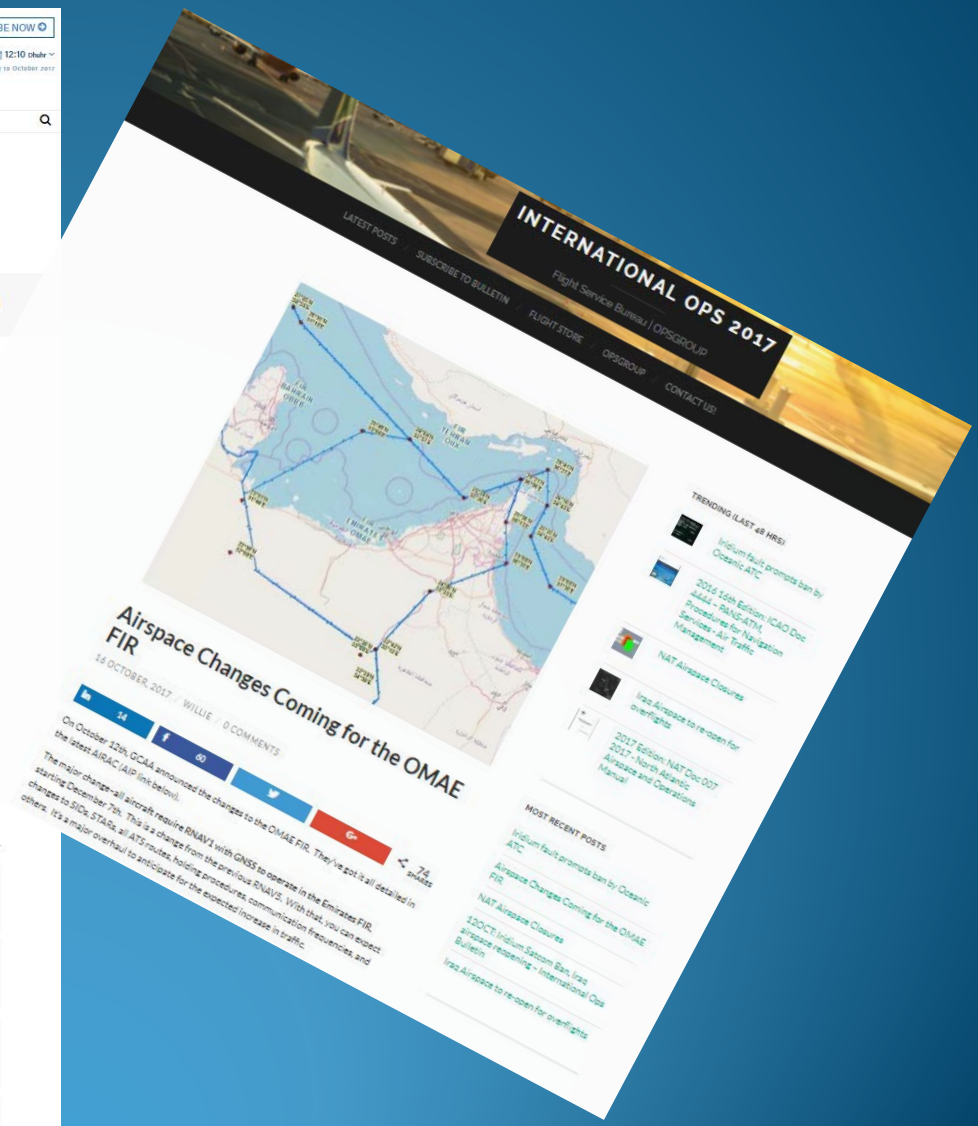
EDITOR'S PICKS

ENERGY
Watch: Masdar and the world's first floating wind farm

LIFESTYLE
Discover what's new at D3 this season

WORLD
World in focus - best photos for October 18, 2017

PROPERTY
What happens to Dubai mortgage



INTERNATIONAL OPS 2017

Flight Service Bureau | OPSGROUP

LATEST POSTS | SUBSCRIBE TO BULLETIN | FLIGHT STORE | OPSGROUP | CONTACT US!

Airspace Changes Coming for the OMAE FIR

16 OCTOBER, 2017 / WILLIE / 0 COMMENTS

On October 12th, GCAA announced the changes to the OMAE FIR. They've got it all detailed in the latest AIRAC AIP link below).

The major change - all aircraft require RNAV1 with GNSS to operate in the Emirates FIR, starting December 7th. This is a change from the previous RNAV5. With that, you can expect changes to SIDs, STARs, all ATS routes, holding procedures, communication frequencies, and others. It's a major overhaul to anticipate for the expected increase in traffic.

TRENDING (LAST 48 HRS)

Iridium fault prompts ban by Oceanic ATC

2014 15th Edition ICAO Doc 4444 - PANS ATM, Procedures for Navigation Services - Air Traffic Management

NAT Airspace Closures

Iraq Airspace to re-open for overflights

2017 Edition NAT Doc 007 - North Atlantic Airspace and Operations Manual

MOST RECENT POSTS

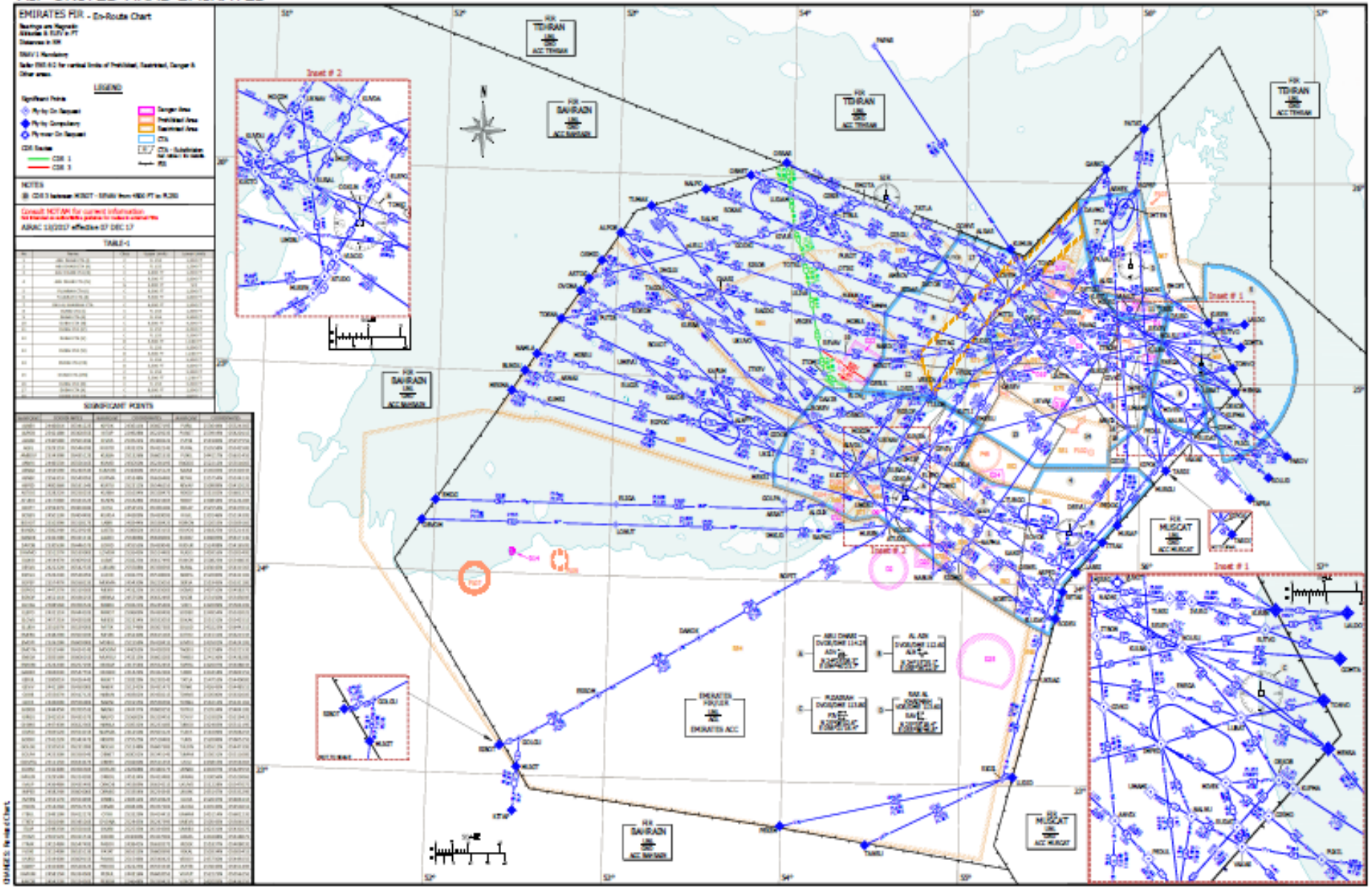
Iridium fault prompts ban by Oceanic ATC

Airspace Changes Coming for the OMAE FIR

NAT Airspace Closures

12OCT Iridium Satcom Ban, Iraq airspace reopening - International Ops Bulletin

Iraq Airspace to re-open for overflights



GCAA Aeronautical Information Publications (AIP) AIRAC 13/2017

UAE ANSP and Regulatory Safety Collaboration

UAE ARP3 Safety Sub Group (SSG)
Managing Effective Safety Collaboration

UAE ANSP and Regulatory Safety Collaboration

On the 19th of April 2017 in response to a unified request by the UAE Air Navigation Service Provider (ANSP) Safety representatives, approval was granted by the Project Steering Group (PSG) to form a Safety Sub Group to report through the Project Management Team with strong communication lines to continue with the Project Technical Teams.

This concept of operation was deemed necessary by the safety representatives to ensure that a more focused safety element of the project could be managed more effectively with oversight being provided by the Project Management Team if required.

The Safety Sub Group was convened on the 18th of May 2017 to determine the objectives, functions and communication lines of the SSG. These outputs are represented in the Terms of Reference.

The SSG Objective

The objective of the **ARP Safety Sub Group (SSG)** is to strengthen the communication and coordination between the **Project Technical Team (PTT)** and the **Project Management Team (PMT)** to ensure safety oversight and safety management activities are addressed in a timely and efficient manner.

The SSG will continue to manage in conjunction with the PTT current and future safety related challenges, and develop recommendations for the improvement of safety for the ARP.

SSG Functions

- Identify issues relevant to current and future ATS safety-related challenges pre/post ARP, and actively develop and recommend proposals for solutions;
- Identify and analyse common hazards and risks, and develop mitigating strategies;
- Provide and share data, information, statistics, trends, actions and activities relating to ARP safety activities;
- Identify, propose and promote best practices with regard to the effectiveness of the ARP implementation in line with all organisations Safety Management Systems;
- Prepare recommendation reports for submission by the Chairman to appropriate decision making bodies.

UAE ANSP and Regulatory Safety Collaboration

Membership

Chairman

- Abu Dhabi Airports, Air Navigation Services, Safety Manager

Deputy Chairman

- General Civil Aviation Authority Sheikh Zayed Air Navigation Centre, Senior Safety and Standards Officer

ANSP's Safety Representatives

- Dubai Air Navigation Services
- General Civil Aviation Authority Sheikh Zayed Air Navigation Centre
- Abu Dhabi Airports Air Navigation Services
- Government of Sharjah Department of Civil Aviation
- Government of Ras Al Khaimah Department of Civil Aviation
- Fujeirah International Airport

GCAA Regulatory Representatives

- GCAA ANA Principal Inspectors

Project Vendors

ENAV / HELIOS / EGIS AVIA Safety and project representatives

Optional Members (When deemed necessary by the Chairman or as determined by the Project Management)

- Key Airline Stakeholders
- Key Airport Stakeholders


Teamwork
Governance
Leadership
Quality Control
Managing Expectation
Planning
Processes
Communication
Feedback
Monitoring
Standardisation
Core Components for Effective Collaboration
Objectives
Guidance
Resources
Key Focal Points
Responsibilities
Data Sharing
Incentive
Structure
Patience
RESPECT
TRUST

UAE ANSP and Regulatory Safety Collaboration

UAE ARP3 Lessons Learned – Safety

UAE ARP3 Lessons Learned – Safety

- The role of Safety needs to be clearly identified at the early stages of the project to ensure oversight activities commence from the inception of the program;
- Clearly established communication lines are critical to managing the program safely and efficiently;
- Managerial support was fundamental to successful execution of the safety oversight activities;
- Centralised document control and standardised templating are key to ensuring consistent dissemination, storage and management of significant volumes of reference materials;
- Cognisance of any limitations (governance/resources etc.) within any of the participating organisations Safety Management Systems.

UAE ANSP and Regulatory Safety Collaboration

The Safety Challenges Ahead

The Safety Challenges Ahead

- Safety monitoring, feedback and mitigation activities will be a fundamental component of the ARP3 Post Transition period;
- Monitoring 'adhoc' ARP Network or operational procedural changes to ensure safety oversight and change management processes are adhered to;
- Ensuring that the 'Lessons Learned' from all phases of the project are documented clearly and made readily available for future Federal initiatives on this scale;
- To maintain the successful collaborative safety framework that has been established to manage the ongoing safety challenges ahead.

UAE ANSP and Regulatory Safety Collaboration