United Arab Emirates
State Safety Programme

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1 DOCUMENT REVISION HISTORY

This is Issue 01 dated November 2019. It supersedes Issue 00 rev 02.

2 FOREWORD

The rapid growth of aviation requires the adoption of modern safety system that is effective, efficient and adaptive, to assure a consistent growth with the evolving aviation business and operating model. This State Safety Programme document sets the strategy of developing aviation safety management functions in the United Arab Emirates. The document outlines our principles and safety objectives, roles, responsibilities, and the necessary processes to effectively implement this strategy. Our approach is consistent with ICAO framework for safety management and the objectives set in the ICAO Global Aviation Safety Plan (GASP).

The General Civil Aviation Authority (GCAA), which is mandated by the Government of the United Arab Emirates for the aviation regulatory and oversight functions, is committed to working closely with the stakeholders to develop, effectively implement, and continuously improve the state-level safety management system under the provisions of well-defined and governed State Safety Programme. Our utmost purpose is ascertain robust safeguard for the well-being of the aviation community and the public.

This document and the associated appendices are approved by the Director General, GCAA.

H.E. Saif Al Suwaidi
Direct General
General Civil Aviation Authority

3 GLOSSARY AND DEFINITIONS

Refer to Appendix 1

4 INTRODUCTION TO UAE SAFETY PROGRAMME

As the UAE is a signatory to the Convention on International Civil Aviation (Chicago Convention), it has established a robust and progressive regulatory and safety oversight system that conforms with the International Civil Aviation Organisation (ICAO) requirements. Through the ICAO Universal Safety Oversight Audit Programme (USOAP) Continuous Monitoring Approach (CMA), we proactively seek to address gaps in our implementation of ICAO Standards and Recommended Practices (SARPs) and strengthen our regulatory safety oversight to mitigate new and emerging safety risks.

The UAE is implementing and maintaining an SSP that allows the integration of State-level safety management activities with the safety management activities of the service providers.

This SSP document articulates the key pillars of UAE safety management, which is around four Components and eight Critical Elements (in accordance with the Annex 19 and USOAP framework), with the aim to:

a) ensure the UAE has an effective legislative framework in place with supporting specific operating regulations;
b) describe the specific activities and responsibilities related to the management of safety that each State authority under the SSP is in charge of;
c) ensure all relevant personnel have a common understanding of the State safety management functions and activities;
d) ensure UAE Safety Risk Management (SRM) and safety assurance coordination and synergy among relevant State authorities;
e) support effective implementation and appropriate interaction with service providers' SMS;
f) facilitate the monitoring and measurement of the safety performance of the service providers;
g) maintain and continuously improve the UAE's overall safety performance; and
h) ensure that the SSP is commensurate with the size and complexity of the UAE civil aviation system.

Note: The UAE retains responsibility for safety management related functions and activities and does not delegate any of these to any State, Regional Safety Oversight Organisation (RSOO), or Regional Accident and Incident Investigation Organisation (RAIO).

The SSP document is available to all stakeholders and the public via the GCAA website Under E-Publications-Safety Standards.

Any queries about the content of this document should be forwarded to UAESSP@gcaa.gov.ae.

5 UAE CHALLENGES AND PRIORITIES

5.1 CHALLENGES

5.1.1 RAPID GROWTH IN AIR TRAFFIC

The Middle-East region will remain a huge driver of air travel demand over the next 10-15 years. As a key air hub connecting the East and West and beyond, The UAE will capture a major share of the growth in the Middle East air traffic.

In 2018, there were 310,781 (source: ICAO) aircraft movements (international flights) in the UAE. Air traffic in the UAE is expected to double by 2030.

The growth in air traffic introduces complexities and additional loads to our aviation system. The UAE will continue to facilitate high air traffic volumes, without compromising safety standards.

5.1.2 INCREASING COMPLEXITY OF OUR AVIATION SYSTEM

The diversified UAE economy, and the remarkable innovative-based activities, the entry of new types of operation, the massive number of public transported by air require a rapid conversion from conventional regulatory approaches to modern techniques, which by default would need a new kind of GCAA expertise.

Major infrastructure developments around Abu Dhabi Airport and Airspace structure are also underway to support the projected growth in air travel. These infrastructural expansions pose operational and regulatory challenges that require change management.

While encountering increasing complexity of its aviation system, The UAE continues to facilitate the growing demand for unmanned aircraft systems (UAS) operations for commercial and recreational purposes. This activity must be conducted safely into an already congested airspace, to ensure it does not pose serious risks to manned aviation and public safety.

Emerging technologies (i.e. Block chain, Artificial Intelligence, Automation, and Autonomous technologies) are also being leveraged in other aviation applications, products and services which have potential to be deployed in UAE, such as the Urban Air Mobility (UAM). The UAE will thus need to develop necessary regulations to address the often-disruptive nature of these leaps in technology, without hampering innovations within industry.

5.1.3 CAPABILITY AND CAPACITY BUILDING

The UAE is strengthening its capabilities to be able to handle current and future challenges.

The GCAA is building its own next generation of aviation professionals and competencies to:

a) Enable adaption of new regulatory approaches powered by data-driven tools, data analysis and info-communication technology; and
b) Ensure that the resources remain commensurate with size and complexity of the UAE civil aviation system.

5.1.4 TENSIONS IN THE GULF REGION

The geopolitical situation of the Gulf Region is creating new challenges for UAE aviation system, leading to maintain all UAE aircraft clear of any potential zone or airspace that could pose a risk to flight safety.

The UAE is working closely with all stakeholders to ensure that UAE operators have enough guidance on how to mitigate this concern.

5.1.5 OTHER EMERGING CONCERNS

Emerging concern can be seen as risk that is new or increasing.

a) "new" means:
    1) The risk did not previously exist and is caused by a change such new processes, new technologies, social, economic, or organisational change; or
    2) A known long-standing issue/concern newly considered as generating a risk; or
    3) New knowledge allowing a long-standing issue/concern to be identified as a contributor to a risk.
b) "increasing" means:
    1) Number of hazards leading to the risk is growing; or
    2) The exposure to the hazard leading to the risk is increasing; or
    3) The effect of the hazard on safety is getting worse.

The UAE will keep using its risk management process for early detection of these categories of risk.

5.2 GLOBAL, REGIONAL AND NATIONAL PRIORITIES

UAE is committed to working with ICAO, international and regional partners to advance aviation safety globally. We contribute actively at ICAO panels and working bodies, as well as in regional bodies and fora such as the Regional Aviation Safety Group – Middle East (RASG-MID).

The ICAO Global Aviation Safety Plan (GASP) sets out a strategy which supports the prioritisation and continuous improvement of civil aviation safety. The GASP provides a framework for the development

and implementation of regional, sub-regional and national plans. Through this document, ICAO promotes harmonisation and coordination of efforts aimed at improving international civil aviation safety.

Three operational priorities have been identified in the GASP 2017-2019 – improving runway safety, mitigating the risk of controlled flight into terrain (CFIT) accidents, and mitigating the risk of loss of control in flight (LOC-I) accidents. These have been incorporated as part of the priorities and targets of the RASG-MID.

UAE is committed to achieving these priorities and targets, as well as to addressing the challenges unique to our civil aviation system, through the continuous monitoring, assessment, and management of our State's safety performance and the National Aviation Safety Plan (NASP).

STATE SAFETY PROGRAMME COMPONENTS

6 COMPONENT 1: UAE SAFETY POLICY, OBJECTIVES AND RESOURCES

This component defines how the UAE will manage safety throughout its aviation system. It includes determining the requirements, obligations, functions and activities of the different State aviation authorities related to the SSP, as well as the broad safety objectives to be achieved. This component enables the UAE to provide clear safety guidelines to support an air transportation system that is continuing to grow and becoming more complex.

6.1 CRITICAL ELEMENT 1: PRIMARY AVIATION LEGISLATION

The UAE has a national aviation safety legislative framework that regulates its civil aviation activities in all domains of the universal safety oversight audit programmes continuous monitoring approach.

All of UAEs primary aviation legislations are available to the public free of charge on a dedicated GCAA website: https://www.gcaa.gov.ae/en/Pages/laws.aspx

6.1.1 CIVIL AVIATION LAW - FEDERAL ACT NO. 20 (1991)

This law provides the basic framework to enable an effective and robust state safety oversight system that is consistent with the provisions of the Chicago Convention and annexes.

6.1.2 GCAA LAW - FEDERAL LAW NO. 4 (1996)

This law establishes the General Civil Aviation Authority (GCAA) as the formally designated authority for the execution of the Civil Aviation Law to regulate safety and exercise regulatory oversight over civil aviation operations in UAE and the operations of UAE aircraft outside the UAE.

6.2 CRITICAL ELEMENT 2: SPECIFIC OPERATING REGULATIONS

Pursuant to the Federal Law No. 4 of 1996 and Federal Act No. 20 of 1991, the GCAA is responsible for promulgating the general policy for civil aviation and proposing regulations in the UAE. The GCAA has developed and published comprehensive civil aviation safety regulations consistent with ICAO SARPs.

All of UAEs aviation regulations are available to the public free of charge on a dedicated GCAA website: https://www.gcaa.gov.ae/en/ePublication/Pages/CARs.aspx?CertID=CARs.

The rulemaking process is triggered through various channels such as the introduction of new or amended ICAO SARPs, challenges, priorities, the internal and external feedback and the new aviation developments.

Since safety regulations are an important tool used to control safety risks, the GCAA is transitioning towards performance-based regulations.

The expectation is that compliance with these (new) regulations will contribute towards achieving the desired level of safety.

6.3 CRITICAL ELEMENT 3: UAE SYSTEM AND FUNCTIONS

The Ministry of Economy is the parent ministry of the GCAA, however by virtue of Federal Law No. 4 of 1996, the GCAA is an autonomous entity. Paragraph 6.3.2 describes the roles and responsibilities of the various business units (which are within each State authority) in relation to civil aviation and the coordination of the SSP activities.

Access to the data and information contained in any safety database(s) used to support SSP activities is granted by the custodian of the database(s). Each custodian will grant access to any personnel who is required to discharge his/her SSP functions and responsibilities provided that such access does not compromise the established principles of protection of safety data, information and related sources.

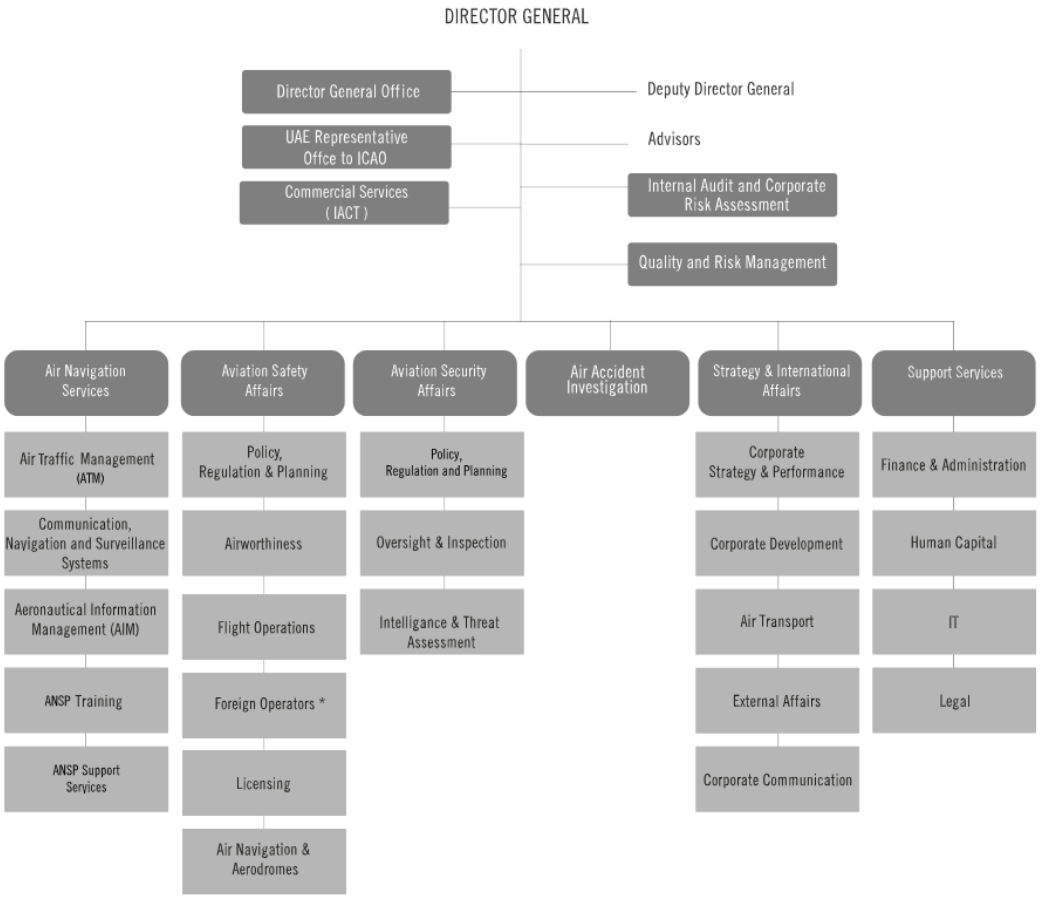
6.3.1 ORGANISATION RESPONSIBLE FOR COORDINATING THE SSP

Pursuant to articles 6 and 7 of the Federal Law No. 4 of 1996, and article 19 of the Federal Act No. 20 of 1991, the GCAA is the organisation responsible for coordinating the implementation and maintenance of the UAE SSP.

6.3.2 SSP FUNCTIONS AND ACTIVITIES

The SSP functions and activities which include acceptance and monitoring of SMS implementation in compliance with CAR-X are already exercised by the existing business units of the GCAA. The governance structure of the GCAA is commensurate with the complexity of the UAE aviation system.

Organization Structure



The obligations, functions and roles of each authority is clearly detailed in the GCAA organisational manual. The GCAA organisational manual helps each authority to understand its contribution to meeting each Annex 19 requirements; most importantly, their responsibility for management of safety in the UAE. It is periodically reassessed following the safety information generated by the SSP.

6.3.2.1 THE UAE GCAA

The General Civil Aviation Authority (GCAA) is the government entity established to implement and maintain an effective and sustainable State Safety Oversight SSO system, characterised by the following:

a) the promulgation and timely amendment of national regulations and guidance to industry, as well as verifying their effective implementation by service providers in a continuous and systemic manner;
b) a well-balanced allocation of responsibilities between the State and the industry for civil aviation safety;

c) the continuous allocation of the necessary financial and human resources for the State authorities to effectively carry out their responsibilities, functions and activities; and
d) The maintenance of harmonious relationships, including communication and consultation between the State and the civil aviation industry, while maintaining effective and clearly separate functional roles.

6.3.2.1.1 AVIATION SAFETY AFFAIRS SECTOR

Aviation Safety Affairs Sector (ASAS) of the UAE GCAA is responsible for supporting the UAE Federal Government in the definition of UAE National Safety Policies, developing and issuing regulations, certifying, licensing, overseeing, supporting the development of policies for all technical domains, coordinating national and international technical strategic agreements and providing technical experts for the air accidents and incidents investigation.

ASAS is responsible for regulating, certifying, licensing, providing continuous oversight and monitoring of safety performance of service providers (of all domains of USOAP, except AIG) through the following functional business units.

6.3.2.1.2 POLICY, REGULATION AND PLANNING DEPARTMENT

Its functions, which are set out in the GCAA Organisational Manual, include the following:
a) Management of UAE's obligations under the ICAO USOAP CMA;
b) Implementation of the SSP and coordination with internal and external stakeholders on relevant SSP activities;
c) day-to-day planning and management of the SSP implementation to ensure that the various aspects work together to deliver the State's safety objectives;
d) Identification and analysis of safety trends and monitoring of safety indicators;
e) Formulation and review of aviation safety policies across ASAS;
f) Ensuring conformance with relevant Annexe(s) to the Chicago Convention:
   - Annex 19: Safety Management (SSP part)

6.3.2.1.3 AIRWORTHINESS DEPARTMENT

Its functions, which are set out in the GCAA Organisational Manual, include the following:
a) Conduct of safety oversight, and development and implementation of regulations relating to:
   - airworthiness of UAE-registered aircraft
   - maintenance, design and production organisations
b) Support Policy, Regulation and Planning in the implementation and maintenance of SSP;
c) Ensuring compliance with relevant Annexe(s) to the Chicago Convention:
   - Annex 6: Operation of Aircraft (airworthiness only)
   - Annex 7: Aircraft Nationality and Registration Marks
   - Annex 8: Airworthiness of Aircraft
   - Annex 16: Environment Protection
   - Annex 19: Safety Management (SMS part)

6.3.2.1.4 FLIGHT OPERATIONS DEPARTMENT

Its functions, which are set out in the GCAA Organisational Manual, include the following:

a) Conduct of safety oversight, and development and implementation of regulations relating to:
   - operations of UAE air operators
   - general aviation aircraft and operations
   - qualification of flight simulation training devices
   - carriage of dangerous goods
   - surveillance of foreign operators
b) Support Policy, Regulation and Planning in the implementation and maintenance of SSP;
c) Ensuring compliance with relevant Annexe(s) to the Chicago Convention:
   - Annex 6: Operation of Aircraft (aircraft operations only)
   - Annex 18: Safe Transport of Dangerous Goods (supported by "Aviation Security Affairs" Business unit)
   - Annex 19: Safety Management (SMS part)

6.3.2.1.5 LICENSING AND AEROMEDICAL DEPARTMENT

Its functions, which are set out in the GCAA Organisational Manual, include the following:

a) Management of the development of regulations, guidance material and internal procedures; regulation and licensing of flight/cabin crew, flight dispatchers aircraft maintenance engineers and air traffic controllers; and conduct of safety oversight of approved training organisations and flight simulation training devices.
b) Development of aeromedical policies and standards relating to medical fitness certification of flight/cabin crew and air traffic controllers; implementation of the medical examination and fitness certification system; and the provision of training for and supervision of Designated Medical Examiners (DMEs) appointed by the GCAA and nomination of suitably qualified physicians to be appointed as Medical Assessors to support the fitness certification system.
c) Support Policy, Regulation and Planning in the implementation and maintenance of SSP;
d) Ensuring compliance with relevant Annexes to the Chicago Convention:
   - Annex 1: Personnel Licensing
   - Annex 19: Safety Management (SMS part)

6.3.2.1.6 AIR NAVIGATION AND AERODROMES DEPARTMENT

Its functions, which are set out in the GCAA Organisation Manual, include the following:

a) Conduct of safety oversight of the aerodrome operator, air navigation service provider and aeronautical meteorological services provider, as well as the development and implementation of regulations for aerodrome operations and air traffic services (ATS); and
b) Support Policy, Regulation and Planning in the implementation and maintenance of SSP;
c) Ensuring compliance with relevant Annexes to the Chicago Convention:
   - Annex 2: Rules of Air
   - Annex 3: Meteorological Service for International Air Navigation
   - Annex 4: Aeronautical Charts

- Annex 5: Units of Measurements to be used in Air and Ground Operations
- Annex 10: Aeronautical Telecommunications
- Annex 11: Air Traffic Services
- Annex 12: Search and Rescue
- Annex 14: Aerodromes
- Annex 15: Aeronautical Information Services
- Annex 19: Safety Management (SMS part)

6.3.2.2 AIR ACCIDENT INVESTIGATION SECTOR

The accident investigation process has a pivotal role in the SSP. It enables the UAE to identify contributing factors, system deficiencies, any potential failures within the aviation system, and to generate the necessary countermeasures to prevent recurrence.

This activity contributes to the continuous improvement of aviation safety by identifying active failures and contributing factors of accidents/incidents and providing reports on any lessons learned from analysis of events. This can support development of corrective actions decisions and corresponding allocation of resources and may identify necessary improvements to the aviation system.

The UAE's AIA authority, represented by the "Air Accident Investigation" (AAI) Sector within the GCAA, is functionally independent from ASAS and AVSEC sectors of the GCAA. The interests of the GCAA do not conflict with the tasks entrusted to the AAI. The rationale for the independence of this function from the CAA is to remove any limits for identifying accident causation, and also identifying any interlinks between systemic deficiencies in the regulatory safety oversight or SSP-related factors. In addition, such independence enhances the viability of the AAI and prevents any actual or potential conflict of interest.

AAI is responsible for conducting investigations into aircraft accidents and incidents in accordance with Annex 13 to the Chicago Convention. Its functions, which are set out in the GCAA Organisational Manual, include the following:

a) conduct of investigations into accidents and selected serious incidents which occur in UAE;
b) conduct of investigations into accidents and selected serious incidents that occur outside UAE, where a UAE-registered aircraft or operator is involved, if the investigation has been delegated to UAE, or the occurrence is in a non-contracting state with no intention of carrying out the investigation; and
c) conduct of investigations into incidents from which air safety lessons may be derived;
d) participation in the investigations conducted by foreign States on accidents or incidents where a UAE-registered aircraft or operator is involved.

AAI ensures that the personnel responsible for addressing safety management-related aspects in aircraft accidents and incidents investigations have developed the required competencies and received guidance materials to help them ensure that safety management related aspects are appropriately addressed in investigations, when relevant.

6.3.3 COORDINATING GROUP FOR THE MAINTENANCE AND IMPLEMENTATION OF SSP

The UAE has established a suitable coordination group (i.e. State Safety Programme Coordinating Group (SSPCG)).

The appointment of SSPCG facilitates good communication, avoids duplication of effort and conflicting policies and ensures effective and efficient SSP implementation. This group reports to Assistant Director General, Aviation Safety Affairs. It is made up of representatives from the AAI, Aviation Safety Affairs, and Dangerous Goods Representatives from Aviation Security Affairs. The Assistant Director General, Aviation Safety Affairs reports the outcomes of the group to the Director General GCAA.

The terms of reference for the SSPCG are under Appendix 2. It is periodically reassessed following the safety information generated by the SSP.

6.3.4 UAE SAFETY POLICY AND OBJECTIVES

State safety policy and State safety objectives are high-level statements endorsed by the Director General of the GCAA to reflect commitment by the UAE towards an effective SSP.

6.3.4.1 UAE SAFETY POLICY

UAE safety policy (Refer to Appendix 3) projects the UAE's intentions, including commitment, and direction to safety and to the promotion of a positive safety culture in the State. The UAE State Policy is complemented by a UAE Enforcement Policy (Refer to Appendix 4).

It is periodically reassessed following the safety information generated by the SSP.

6.3.4.2 UAE SAFETY OBJECTIVES

UAE safety objectives (Appendix 5) have been established with a clear understanding of the highest safety risks in the UAE aviation system and the UAE's priorities for the management of safety. They are used to provide direction for the establishment and achievement of the overall ALoSP (Refer to 8.2.2) via the selection of appropriate SPI/SPT (refer to 8.2.4 and Appendix 6). They provide a blueprint for allocating and directing the State's resources.

The Safety Objectives are periodically reassessed following the safety information generated by the SSP.

6.3.5 UAE SAFETY RESOURCES

The GCAA relies on fees and charges to fund its regulatory and investigation activities. To achieve its safety objectives, sufficient resources at different levels are allocated to ensure that the State Safety Policy is implemented and State Safety Objectives are achieved.

The availability of the necessary resources and competencies for SSP implementation are determined using a manpower methodology considering the size and complexity of the aviation sector.

The availability of resources and competencies is periodically reassessed following the safety information generated by the SSP.

6.3.6 UAE NATIONAL AVIATION SAFETY PLAN (NASP)

Safety plans are used to achieve safety objectives and to detail actions taken to improve safety as well as to communicate them to the State authorities' staff as well as to the industry.

The NASP sets out how the UAE manages safety risks. It is used to manage actions associated with the mitigation, monitoring and measuring of specific safety risks and to communicate them to the industry.

It is periodically reassessed following the safety information generated by the SSP, ICAO GASP updates and ICAO MID Regional Aviation Safety Group (RASG) safety initiatives or any other sources available. In addition, the elements contained in section 5 of this document are considered in the NASP.

6.3.7 SSP DOCUMENT

To ensure that all relevant personnel have a common understanding of the State safety management functions and activities, the UAE has developed and published this SSP document. This SSP document includes the SSP structure and associated programmes, how SSP's various components work together, as well as the roles and responsibilities of the different State aviation authorities.

This SSP document is:

a) complemented by existing processes and procedures and broadly describe how the various SSP sub-programmes work together to improve safety;
b) under the control of the GCAA;
c) disseminated via UAE GCAA website; and
d) is periodically reassessed following the safety information generated by the SSP.

6.3.8 ENFORCEMENT POLICY

The UAE has established an enforcement policy (Refer to Appendix 4) that:

a) Supports and encourages a positive safety culture;
b) describes how the UAE assures protection of safety data and safety information and related sources, especially if information provided is self-incriminating; and
c) Specifies the conditions and circumstances under which service providers with an SMS are allowed to deal with and resolve events involving certain safety issues or deviations internally, within the context of their SMS and to the satisfaction of the GCAA, provided that the SMS is in accordance with the SMS framework and shown to be effective and mature.

The Enforcement Policy is periodically reassessed following the safety information generated by the SSP.

6.4 CRITICAL ELEMENT 4: QUALIFIED TECHNICAL PERSONNEL

The UAE has established a training and development methodology and programme for all staff involved in the SSP to ensure they have the appropriate competency and knowledge. The training programme comprises of initial, recurrent, specialised modules, on-job-training. This includes a comprehensive induction programme for personnel, covering generic training on people management, audit, systems and tools, the regulatory environment, SSP and SMS.

To assess the gap in the competency, an employee development plan is created yearly with a particular focus on technical staff having safety duties. Ad-hoc training courses are arranged based on emerging needs. The SSP Coordination Group also supervises the competence of concerned personnel.

6.5 CRITICAL ELEMENT 5: TECHNICAL GUIDANCE, TOOLS AND PROVISION OF SAFETY-CRITICAL INFORMATION.

The UAE GCAA ASAS provides its personnel and service providers with a clear set of technical guidance (e.g. AMC, GM, CAAP, forms, procedures), tools (e.g. transportation, offices, telephones and other communication facilities, access to the internet, technical library) , Q-Pulse, ROSI, e-services) and safety-critical information (e.g. NOTAM, Airworthiness Directive, Safety Decision, Alerts) to ensure appropriate performance of safety related duties, in all USOAP domains (except AIG), including SSP-related functions and activities and initial acceptance and continuous surveillance of service provider' SMS.

7 COMPONENT 2: STATE SAFETY RISK MANAGEMENT

The UAE needs to identify potential safety risks to their aviation system. Therefore, the UAE has developed and implemented proactive processes to identify and address precursors and contributors of accidents, and strategically manage safety resources to maximise safety improvements.

The UAE's SRM component includes the implementation of:

a) SMS by service providers including hazard identification processes and the management of associated safety risks.
b) The principles of SRM to GCAA's own activities, with due regards of the interface with SMS mandated on service providers. These include activities such as the development of regulations and prioritisation of surveillance activities based on assessed risk.

7.1 CRITICAL ELEMENT 6: LICENSING, CERTIFICATION, AUTHORISATION AND APPROVAL OBLIGATIONS

7.1.1 GENERAL CONSIDERATIONS

Specific requirements and conditions for aviation documents such as licences, certificates, authorisations and approvals are established in the national regulatory framework.

The GCAA has established and implemented documented processes and procedures to ensure that individuals and organisations performing an aviation activity meet the established requirements before they are allowed to exercise the privileges of the aviation document.

For each CE-6 activity, a file is maintained that includes, but not be limited to, the following:

a) application and associated documents;
b) service provider manual;
c) audit/inspection files;
d) corrective action plans and evidence of implementation;
e) if applicable, exception or exemption files (including safety studies and their assessment); and
f) copy of the certificate (and associated specifications, if applicable), licence, authorisation or approval.

7.1.2 PERSONNEL LICENSING

Personnel licensing activities include, but are not limited to, the following:

a) approval of training courses;
b) approval of the use of simulation training devices and the authorisation for their use, in order to gain the experience or demonstrate the skill required for the issue of a licence or rating;
c) approval, designation and supervision of individuals or organisations (including medical examiners) delegated to perform specific tasks on behalf of the personnel licensing office;
d) assessment and approval of applications for licences and ratings;
e) assessments of medical fitness relating to licence requirements;
f) issue of licences and ratings; and
g) validation and conversion of licences and ratings issued by other States.

7.1.3 CERTIFICATES AND APPROVALS

Training organisations, air operators, aircraft maintenance organisations, air navigation service providers and aerodromes can’t operate unless they are granted a certificate or an approval from the GCAA.

The certification and approval processes includes, but not limited to, the following:

a) dealing with expression of interest, including coordination with other concerned authorities;
b) initial review of the documentation submitted by the service provider, including key personnel’s competence and operating procedures;
c) on-site audits and/or inspections to verify technical aspects and assess the service provider’s organisation, competence and implementation of its operating procedures;

d) if necessary, assessment of exemption request and supporting documents (e.g. aeronautical studies) with on-site inspections as needed, resulting in the granting (or denial) of exemptions with corresponding mitigation measures;
e) assessment of the corrective action plans submitted by the service provider to resolve findings and non-compliances and acceptance (or rejection) of corrective actions, mitigation measures and associated timelines;
f) issuance of the certificate or approval, with indication of operating conditions (and limitations, if applicable);
g) renewal or continuing validity of the certificates subject to satisfactory performance; and
h) transfer or surrender of certificates.

7.2 SAFETY MANAGEMENT SYSTEM OBLIGATIONS

The purpose of an SMS is to provide service providers with a systematic approach to manage safety. It is designed to continuously improve safety performance through the identification of hazards, the collection and analysis of safety data and safety information, and the continuous assessment of safety risks.

An effective SMS demonstrates to the GCAA, the ability of the concerned service providers to manage safety risks and provides for effective management of safety at the UAE level.

7.2.1 SMS REGULATORY REQUIREMENTS

The UAE has promulgated its SMS regulations CAR PART X to require some categories of service providers, including international general aviation operators, to implement and maintain an SMS that is consistent with ICAO SMS principles.

CAR PART X also contains means of compliance and guidance materials and examples to enhance the efficiency of service providers' SMS. It is reviewed periodically following the safety information generated by the SSP and triggers as per 6.2.

7.2.2 INITIAL ACCEPTANCE AND CONTINUOUS SURVEILLANCE OF AN SMS

As per CAR-X, the SMS must be acceptable to the GCAA. CAR-X identifies the types of organisations required to implement an SMS. Under the CE-5, several tools, guidance and training have been provided to support SMS implementation and maintenance.

The SMS of a service provider is under the continuous surveillance of the GCAA to ensure that service providers:
a) have an effective hazard identification and risk management processes;
b) monitor and analyse safety data to identify trends and take appropriate action; when needed;
c) review and monitor safety performance indicators (SPIs), alert levels and target levels, when applicable;

d) enable and promote the exchange of safety information within their organisation and with other sectors of civil aviation, when needed.

7.2.3 ACCEPTANCE OF SERVICE PROVIDER'S SPIs AND SPTs

SPIs and SPTs proposed by service providers are reviewed and agreed by the GCAA as part of the SMS acceptance and continued surveillance.

Some of these SPIs and SPTs are linked to the UAE SPIs and SPTs for measuring and monitoring the ALoSP (refer to section 8.2.2 and Appendix 6).

7.3 HAZARD IDENTIFICATION, SAFETY RISK ASSESSMENT AND MANAGEMENT

The UAE has established a hazard identification and safety risk assessment process (SRM process) to ensure that:

e) safety management in the UAE aviation complies with the international requirements and includes the best practices;
f) the safety policy is implemented and safety objectives are embedded in everyday operations and policies;
g) the GCAA is able to leverage information to identify key hazards in UAE aviation and to assess related risks; and
h) UAE safety management is systematic, proactive, and capable of responding rapidly when necessary.

This process is reviewed periodically to ensure that it remains functional, effective, and well-documented.

7.3.1 HAZARD IDENTIFICATION

7.3.1.1 SDCPS IN USE IN THE UAE

In the UAE, the hazard identification process uses several Safety Data Collection and Processing Systems (SDCPSs) that enable proactive and reactive hazard identification:

a) Mandatory Occurrence Reporting Systems (ROSI System).
b) Data from audit findings/reports.
c) Safety data from other States, regional safety oversight organisations, and international Aviation bodies. (ICAO Safety report – RASG meeting report – MID ASRT report).
d) Accidents and Incidents Investigation Reports.
e) Voluntary Reporting System.

Data is collected from multiple sectors to provide a comprehensive understanding of each hazard across the total system. Each custodian of an SDCPS has put in place policies, procedures, and hazard analysis tool to ensure data is collected, stored, aggregated, and analysed by competent personnel.

7.3.1.2 MANDATORY OCCURRENCE REPORT

The GCAA launched its safety incident reporting service on 1 January 2010. The platform which is named ROSI is structured in a manner that allow data analysis.
ROSI is accessible on GCAA website: https://www.gcaa.gov.ae/en/rosi/Pages/home.aspx

7.3.1.3 VOLUNTARY REPORT

Despite an acceptable reporting level of hazards, the UAE created VORSY a platform to collect hazard that may not have been reported via ROSI.
VORSY is accessible on GCAA website: https://eservices.gcaa.gov.ae/ROSIGCAA/VORSY/VR_AppForm.aspx

7.3.1.4 PROTECTION POLICY

UAE Policy on Protection of Safety Data, Safety Information and Related Sources (Refer to Appendix 7) projects the UAE's intentions, including commitment, and direction to protect safety data, information and associated sources, as well the condition to apply exception to the protection.

It is periodically reassessed following the safety information generated by the SSP.

7.3.2 SAFETY RISK ASSESSMENT AND MANAGEMENT

7.3.2.1 SAFETY RISKS ASSESSMENT

The UAE safety risk assessment process aims at evaluating the tolerability of the identified risks based on their calculated or estimated probability and their severity. A process has been established allowing:
a) Risk prioritisation;
b) Determination of safety risk probability, safety risk severity and safety risk tolerability; and
c) Determination of the safety risk mitigation strategies and their monitoring.

7.3.2.2 CRITICAL ELEMENT 8: MANAGEMENT OF SAFETY RISKS

The UAE has established a process for the management of safety risks to ensure safety risks are controlled and an ALoSP is achieved.

The Management of safety risks may lead to:
a) promulgating additional policies, regulations or directives;
b) safety promotion activities;
c) direct intervention with a service provider (i.e. On notice programmes in accordance with safety audit standards or enforcement actions); and
d) evaluation of each proposed safety risk control.

Once safety risk controls have been selected and implemented, monitoring and validation of each proposed safety risk control is assured as a next step to ensure the intended goals have been achieved.

8 COMPONENT 3: UAE SAFETY ASSURANCE

UAE safety assurance activities, as part of SSP, provide the UAE with assurance that its safety processes are functioning effectively and the UAE is on target to achieve its safety objectives via the collective efforts of the UAE's service providers.

8.1 CRITICAL ELEMENT 7: SURVEILLANCE OBLIGATIONS

Surveillance activities conducted by the UAE, information coming from established SDCPSs and safety promotion activities enabling sharing and exchange within UAE ensure that regulatory safety risk controls are appropriately integrated into a service provider's SMS.

8.1.1 COMPLIANCE MONITORING

The UAE uses a documented surveillance process (compliance monitoring) to define and plan inspections, conduct audits and monitor activities on a continuous basis, and proactively ensure that aviation document holders continue to meet the established requirements. This process includes the surveillance of personnel designated to perform safety oversight functions on its behalf.

8.1.2 RISK-BASED OVERSIGHT

8.1.2.1 RISK-BASED OVERSIGHT METHODOLOGY

Since 2015, the UAE has been investing extensively in moving towards Risk-Based Oversight (RBO) approach that would enable prioritisation of audit activities and allocation of resources commensurate with the safety risk profile of each sector or individual service provider. To move from the conventional compliance monitoring system to an RBO system, the GCAA needs to monitor the maturity level of service providers' safety assurance, and in particular, their management of safety performance.

RBO is defined as a means of performing oversight where the:

a) planning is driven by the Organisation Risk Profile (ORP) decision-making tool and execution, besides ensuring compliance; and
b) scope of oversight is derived from Organisation Risk Scope (ORS) decision-making tool.

RBO is a data-driven methodology that facilitates decision-making and offers concerned staff information on the best approach to assure effective and efficient management of safety.

The foundation of an effective RBO is reliable and uses meaningful data. The UAE continuously works on reinforcing its data management capabilities.

These profiles evaluate common safety risks that affect multiple service providers with similar types of operations. They facilitate safety risk ranking among service providers within a specific aviation sector or across sectors, and support the allocation of surveillance resources to sectors or activities with greatest safety need.

RBO is being applied to all service providers including those with a mature SMS and those where SMS has not yet been implemented.

8.1.2.2 ORP DECISION-MAKING TOOL

To support the process of modifying the frequency of surveillance activities of the different aviation sectors, the GCAA has established its data-driven decision tool - Organisational Risk Profile. These profiles capture and aggregate information that is already available and include factors such as:

a) The financial health of the organisation;
b) Number of years in operation;
c) Turnover rate of the key personnel such as the accountable executive and safety manager;
d) Competence and performance of the accountable executive;
e) Competence and performance of the safety manager;
f) Results of previous audits;
g) Timely and effective resolution of previous findings;
h) Measures of relative level of activity (exposure to safety risk);
i) Indicators of the relative scope and complexity of the activities being performed;
j) Maturity of the hazard identification and safety risk assessment process; and
k) Measures of safety performance from State safety data analysis and performance monitoring activities.

8.1.2.3 ORS DECISION-MAKING TOOL

To support the process of modifying the scope of surveillance activities of the different aviation sectors, the GCAA has established its data-driven decision tool - Organisational Risk Scope. It captures and aggregates information that is already available from the audit database.

ORS has been initiated based on “structured” data (e.g. audit findings) and it targets areas with greatest need.

8.2 UAE SAFETY PERFORMANCE MANAGEMENT

8.2.1 GENERAL

UAE Safety performance management is about asking and answering the four most important questions regarding safety management:

a) What are the UAE’s top safety risks? they are derived from a review of aviation accident and incident data as well as predictive analysis to identify and define emerging risks.
b) What does the State want to achieve in terms of safety and what are the top safety risks that need to be addressed? they are the State’s safety objectives.
c) How will the State know if it is making progress toward its safety objectives? This determination is through SPIs, SPTs and, if practicable, safety triggers.
d) What safety data and safety information are needed to make informed safety decisions? This is generally achieved through an evolving SDCPS and safety data analysis.

8.2.2 ACCEPTABLE LEVEL OF SAFETY PERFORMANCE (ALOSP)

An ALoSP process has been developed to maintain and continuously improve the safety performance of the entire UAE aviation system. It details means for the establishment, the communication, the continuous monitoring and the periodic review of the UAE ALoSP. (refer to NASP).

In the UAE, ALoSP is achieved when the following conditions are met:

a) Implementation and maintenance of the SSP, including implementation of ICAO SARPs and service providers' SMS. This condition though not part of the ALoSP is important in contributing towards achieving the safety objectives; and
b) Implementation and maintenance of select SPIs and SPTs showing that safety is being effectively managed.

The SSP Coordination Group is responsible for the review/update/communication/monitoring of ALoSP.

8.2.3 IMPLEMENTATION AND MAINTENANCE OF THE SSP

8.2.3.1 SSP IMPLEMENTATION

Initially, the GCAA has conducted a gap analysis to gain a detailed understanding of the gap between the existing structures and processes, and those required for an effective SSP implementation in the UAE. The gap analysis revealed that considerable safety management capability already existed. The elements and processes identified as requiring action were introduced in the SSP implementation plan.

8.2.3.2 SSP MAINTENANCE

The maintenance of the SSP will be determined through different monitoring mechanisms of State's safety performance such as:

a) Internal audits;
b) Review performed by SSP Coordination Group;
c) Aggregation and trend analysis of safety performance at State level based on:
    i. Safety data analysis and trends gathered from SDCPS;
    ii. Internal/external audit analysis reports;
    iii. Aviation safety reports gathered at a global level;
    iv. Serious incident and accident reports and recommendations; and
    v. Safety performance measurements of service providers.

8.2.4 IMPLEMENTATION AND MAINTENANCE OF SPIs AND SPTs

8.2.4.1 SERVICE PROVIDER's SPIs AND SPTs

The SMS regulation (i.e. CAR-X) requires the agreement and monitoring of SPI performance which should be a combination of process and outcome oriented indicators.

After their agreement, service provider's SPIs and SPTs are periodically reviewed as per established process. The review takes into consideration the performance and effectiveness of each SPI and SPT and may show the need to make adjustments to support the continuous safety improvement.

8.2.4.2 UAE SPIs AND SPTs

The UAE has agreed meaningful SPIs (refer to NASP) to reflect the specific operational environment and to highlight conditions that can be used to identify how safety risks are being controlled. SPIs encompass all areas of the UAE aviation system, with safety performance-related information from its service providers. They are used to support the monitoring of the UAE's safety performance. These SPIs are a combination of high and low level indicators.

A periodic review is conducted because the aviation system is dynamic and constantly changing. (refer to NASP for actions to be taken when SPT is not met)

8.3 MANAGEMENT OF CHANGE

Changes are an ever-present fact in the aviation system. Thy can be operational or organisational.

Changes may introduce hazards that may impact the effectiveness of existing safety defences.

Consequently, the UAE has developed a process to assess the impact of changes at a State level to proactively identify the safety impact of change before they are implemented. The process facilitates the planning and execution of proposed changes in a structured way allowing efficient analysis of their impact on the existing system.

The Management of Change process focuses on the changes that could have a significant impact on the UAE's ability to fulfil its legal obligations. No operation takes place in a changed system or operational context until all safety risks are evaluated.

Organisational and operational changes that generally qualify for the conduct of a management of change are:

a) reorganisation of UAE aviation authorities and reallocation of responsibilities;
b) changes in the SSP processes, including changes in methodology such as RBO, SRM and safety assurance processes.
c) changes in the regulatory environment, such as changes in existing UAE safety policies, programmes, and regulations;
d) changes in the operational environment, such as introduction of new technologies, changes in infrastructure, equipment and services, changes in the airspace;
e) rapid changes in the industry (expanding, contracting, morphing) and its potential impact on the UAE oversight and performance monitoring capabilities.

9 COMPONENT 4: UAE SAFETY PROMOTION

An effective Safety Promotion supports the development of a positive culture that fosters an effective and efficient SSP, which in turn should lead to improvement of safety performance.

UAE promotes safety awareness and the sharing and exchange of safety information internally and externally. A Safety Communication Plan in its annual operational plan is used to develop, document, implement and maintain formal means for:

a) improving system-wide safety culture including reporting;
b) enabling and promoting the exchange of safety information among service providers
c) ensuring that appropriate tools, processes, trainings, education and expertise are made available to carry any SMS activity and any SSP related activity;
d) conveying safety critical information in a timely manner;
e) explaining why particular safety actions are taken or any change to the system is made.

Note: Safety data, safety information and related sources are protected, unless a principle of exception applies.

The UAE Safety Communication Plan consists of two components.

9.1 INTERNAL COMMUNICATION AND DISSEMINATION OF INFORMATION

The UAE has established appropriate mechanisms (e.g. formal communication channels between the members of the SSP Coordination Group, ASAS and AAI) to facilitate SSP implementation and improve system-wide safety culture by ensuring that:

a) actions related to the management of safety are visibly supported by management;
b) priorities, best practices, risks that standout in a particular operation are constantly communicated; and
c) employees embrace and understand their responsibilities towards safety management;

These mechanisms have improved coordination and collaboration among different authorities involved with safety oversight within the UAE, enabling personnel, including decision maker, to have solid and harmonised understanding of:

a) SSP documentation, its associated policies, and procedures;
b) SSP operational strategies;
c) SPIs;
d) Safety performance information;
e) Organisational safety risks profiles;
f) Safety responsibility;
g) SMS requirements;
h) Lessons learned from accidents and incidents; and
i) Concepts and best practices of safety management.

Communication of safety information is made using available communication means such, emails, e-publication notification, seminars, meetings, training, websites, workshops, mailing lists.

9.2 EXTERNAL COMMUNICATION AND DISSEMINATION OF SAFETY INFORMATION

Externally, the establishment of communication channels with service providers has started since 2011 enabling:

a) Effective SMS implementation, along with supply of guidance material for the implementation of SMS;
b) A system-wide positive safety culture with a particular stress on the importance of reporting;
c) Share and exchange of information such as lessons learned, best practices, SPIs, decisions or actions taken to improve aviation safety (e.g., establishing regulations or implementing changes to surveillance methods);
d) the provision of information on specific safety risks;
e) the increase of general awareness on aviation safety issues and the supply of safety training for the aviation community;
f) collaboration in identifying safety enhancement initiatives among service providers; and
g) promote the exchange of safety information:
   i. with and among service providers; and
   ii. Between States.

APPENDICES

APPENDIX 1: GLOSSARY AND DEFINITIONS

Glossary

- AAI: Air Accident Investigation
- AIA: Aviation Investigation Authority
- ALoSP: Acceptable Level of Safety Performance
- AMC: Acceptable Means of Compliance
- ANSP: Air Navigation Service Providers
- ASAS: Aviation Safety Affairs Sector
- ATS: Air Traffic Services
- CAA: Civil Aviation Authority
- CAAP: Civil Aviation Advisory Publication
- CAR: Civil Aviation Regulation
- CFIT: Controlled Flight into Terrain
- CMA: Continuous Monitoring Approach
- DME: Designated Medical Examiners
- EASA: European Aviation Safety Agency
- ECCAIRS: European Coordination Center for Accident and Incident Reporting Systems
- EPAS: European Plan for Aviation Safety
- FCL: Flight Crew licence
- GASP: Global Aviation Safety Plan
- GCAA: General Civil Aviation Authority
- GDP: Gross Domestic Product
- GM: Guidance Material
- ICAO: International Civil Aviation Organisation
- ISO: International organisation for standardisation
- LOC-I: Loss of control in Flight
- LSA: Light Sport Activity
- MAC: Mid Air Collision
- NASP: National Aviation Safety Plan
- NOSS: Normal Operations Safety Survey
- ORA: Organisation Requirements for Aircrew
- ORP: Organisational Risk Profiles
- ORS: Organisation Risk Scope
- PRP: Policy, Regulation and Planning
- RAIO: Regional Accident and Incident Investigation Organisation
- RASG-MID: Regional Aviation Safety Group – Middle East
- RBO: Risk Based Oversight
- RSOO: Regional Safety Oversight Organisation
- SAFA: Safety assessment of Foreign Aircraft
- SARP: Standards and Recommended Practices
- SDPCS: Safety Data Collection and Processing Systems

- SMS: Safety Management System
- SRBS: Safety Risk Based System
- SRM: Safety Risk Management
- SPI: Safety performance indicators
- SPT: Safety Performance Targets
- SSO: State Safety Oversight
- SSP: State Safety Programme
- SSPCG: State Safety Programme Coordinating Group
- UA: Unmanned Aircraft
- UAE: United Arab Emirates
- USOAP: Universal Safety Oversight Audit Programme.

Definitions:

Accident. An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

a) a person is fatally or seriously injured as a result of: being in the aircraft, or direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

b) the aircraft sustains damage or structural failure which: adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the random); or

c) the aircraft is missing or is completely inaccessible.

N1. *For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified, by ICAO, as a fatal injury.*

N2. An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

N3. The type of unmanned aircraft system to be investigated is addressed in 5.1 of Annex 13.

N4. Guidance for the determination of aircraft damage can be found in Attachment F of Annex 13.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Hazard. A condition or an object with the potential to or contribute to an aircraft incident or accident.

Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation. *Note. - The types of incidents which are of interest for safety-related studies include the incidents listed in Annex 13, Attachment C.*

Industry codes of practice. Guidance material developed by an industry body, for a particular sector of the aviation industry to comply with the requirements of the International Civil Aviation Organisation's Standards and Recommended Practices, other aviation safety requirements and the best practices deemed appropriate. *Note— Some States accept and reference industry codes of practice in the development of regulations to meet the requirements of Annex 19, and make available, for the industry codes of practice, their sources and how they may be obtained.*

International general aviation. An aircraft operation other than a commercial air transport operation or an aerial work operation

Operational personnel. Personnel involved in aviation activities who are in a position to report safety information. *Note— Such personnel include, but are not limited to: flight crews; air traffic controllers; aeronautical station operators; maintenance technicians; personnel of aircraft design and manufacturing organisations; cabin crews; flight dispatchers, apron personnel and ground handling personnel.*

Safety. The state in which risks associated with activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Safety data. A defined set of facts or set of safety values collected from various aviation-related sources, which is or partially used to maintain or improve safety. *Note. — Such safety data is collected from proactive or reactive safety-related activities, including but not limited to:*

a) accident or incident investigations;

b) safety reporting;

c) continuing airworthiness reporting;

d) operational performance monitoring;

e) inspections, audits, surveys; or

f) safety studies and reviews.

Safety information. Safety data processed, organised or analysed in a given context so as to make it useful for safety management purposes.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organisational structures, accountability, responsibilities, policies and procedures.

Safety oversight. A function performed by a State to ensure that individuals and organisations performing an aviation activity comply with safety-related national laws and regulations.

Safety performance. A State or a service provider's safety achievement as defined by its safety performance targets and safety performance indicators.

Safety performance indicator. A data-based parameter used for monitoring and assessing safety performance.

Safety performance target. The State or service provider's planned or intended target for a safety performance indicator over a given period that aligns with the safety objectives.

Safety risk. The predicted probability and severity of consequences or outcomes of a hazard.

Serious injury. An injury which is sustained by a person in an accident and which:

a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or

b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or

c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or

d) involves injury to any internal organ; or

e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or

f) involves verified exposure to infectious substances or injurious radiation.

Service provider. Any organisation providing aviation products and/or services and encompasses notably aircraft operators, approved maintenance organisations, organisations responsible for type design and/or manufacture of aircraft, air navigation service providers and certified aerodromes.

State of Design. The State having jurisdiction over the organisation responsible for the type design.

State of Manufacture. The State having jurisdiction over organisation responsible for the final assembly of the aircraft.

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety.

Surveillance. The State activities through which the State proactively verifies through inspections and audits that aviation licence, certificate, authorisation or approval holders continue to meet the established requirements and function at the level of competency and safety required by the State.

APPENDIX 2: UAE SAFETY PROGRAMME COORDINATION GROUP (SSPCG) TERMS OF REFERENCE

The UAE Safety Programme Coordination Group (SSPCG) is a committee established to coordinate all SSP activities. The group is chaired by the Director of Policy, Regulation and Planning, and comprises representatives from relevant Sectors and Departments. The SSPCG oversees the development and implementation of the SSP and reviews the level of safety performance and policies and practices related to SSP.

The SSP COORDINATION GROUP was established under the instruction of the Director General GCAA. The Group has the following roles

a) Supervising the safety management activities and providing necessary guidance to the GCAA front line personnel and the service providers;
b) Recommending to Senior Management changes to the Policies, Objectives and Plans and any other means established to implement and maintain effective SSP;
c) Reviewing/updating/communicating/monitoring of ALoSP;
d) Ensuring that appropriate and up-to-date information is provided to decision-makers and personnel involved in the implementation and maintenance of the SSP;
e) Development of the National Aviation Safety Plan;
f) Monitoring the effectiveness of corrective actions;
g) Monitoring the compatibility between safety performance indicators and safety objectives;
h) Management of changes as per 8.3 and updating the risk register accordingly;
i) Monitoring the development and updating of the risk register and identifying sources of data related to the register;
j) Monitoring risk assessments and prioritisation;
k) Identifying the training needs of the employees of the operational sector to carry out the safety management duties entrusted to them as well as the training needs of stakeholders from the senior management;
l) Following up on the audit results of safety management systems of service providers and following up the implementation of risk-based oversight;
m) Developing and updating the State Safety Programme Document;
n) Proposing amendments to laws in the interest of safety management;
o) Reviewing and updating of safety management system regulations;
p) Identifying and implementing safety promotion programmes and supervise safety information sharing programmes;
q) Coordinating with the Air Accident Investigation Sector regarding recommendations, their follow-up, training needs related to safety management and regulations and procedures that require coordination;
r) Coordinating with the Aviation Security Sector regarding dangerous goods, training needs related to safety management and regulations and procedures that require coordination;
s) Carrying out any other tasks related to the State Safety Programme; and
t) Developing procedures and principles to implement the mentioned tasks.

APPENDIX 3: UAE SAFETY POLICY

The United Arab Emirates (UAE) is committed to implementing, developing and improving strategies, management systems, processes, human and financial resources to ensure that all aviation related activities are conducted with the highest level of safety performance and meet national and international standards.

The UAE commits to:

a) comply with and, where practically possible, exceed legislative and regulatory requirements and standards;
b) develop and maintain a safety culture at the General Civil Aviation Authority (GCAA) and across all categories of aviation services providers in the UAE;
c) ensure protection of safety data and safety information derived from mandatory and voluntary safety reporting systems and related sources unless a principle of exception is applied;
d) recognise the importance of effective safety management and acknowledge at all time that safety is primary;
e) provide sufficient and competent personnel and sufficient financial resource to ensure that SSP activities are performed effectively;
f) define the responsibilities and accountabilities of all personnel in developing and maintaining UAE SSP;
g) ensure all personnel are provided with adequate and appropriate aviation safety information and training to implement and maintain SSP;
h) proactively identify risk through risk management systems;
i) continually improve UAE's safety performance; and
j) conduct safety management reviews to ensure relevant actions are taken.

APPENDIX 4: UAE ENFORCEMENT POLICY

This enforcement policy is promulgated under the statutory authority in Federal Law No. (04) 1996, enabling the General Civil Aviation Authority (the Authority) to undertake the promulgation of general policy for civil aviation.

1 PURPOSE

1.1 Enforcement of compliance to civil aviation laws forms part of regulatory tools available to the Authority to create and sustain a safe and secure civil aviation system in the State. Enforcement action can be taken against non-compliance with the following prescripts:
   a) Civil aviation primary laws;
   b) Civil Aviation Regulations, including AMC and CAAP;
   c) Safety Directives or other Directives issued by the Authority.

1.2 The UAE enforcement policy is aimed at promoting compliance with aviation safety regulations and requirements through enforcement functions in an equitable manner.

1.3 In order to achieve the above mentioned aim, the enforcement policy is developed in such a way that it:
   a) supports and encourages a positive safety culture; and
   b) specifies the conditions and circumstances under which service providers with a safety management system (SMS) are allowed to deal with and resolve events involving certain safety issues internally, within the context of their SMS and to the satisfaction of the GCAA, provided that the SMS is in accordance with the SMS framework (i.e. established and maintained in accordance with CAR-X) and shown to be effective and mature.

1.4 The enforcement policy applies to persons or service providers that are involved in civil aviation activities.

2 DEFINITIONS

In this Policy, the following terms and expressions shall, unless otherwise required by the context, have the meanings set forth below:

   a) “Criminal activity” means an act or omission which has a criminal element and which, according to the Federal Act No. (20) of 1991, is punishable by a fine or imprisonment or both;
   b) “gross negligence or reckless conduct” means an act or omission undertaken with a serious disregard or indifference to an obvious risk, regardless of whether the risk was fully appreciated by the actor;
   c) “Wilful misconduct” means a wrongful act or omission which a person either knows to be wrongful or is indifferent to the question of whether it is wrongful or not.

3 POLICY

3.1 All applicable service providers (as per CAR-X) are required to establish, maintain and adhere to an SMS that is commensurate with the size, nature and complexity of the operations authorised to be conducted under their approval/certificate.

3.2 The implementation of SMS requires the UAE to have an equitable and discretionary enforcement approach to support the SSP-SMS framework.

3.3 The UAE enforcement policies and procedures allows service providers to deal with, and resolve, certain events involving safety deviations, internally, within the context of the service provider's SMS, and to the satisfaction of the GCAA.

3.4 Contraventions involving gross negligence or reckless conduct and violations involving wilful misconduct, will be investigated by the GCAA and may be subject to conventional enforcement action where appropriate. Contraventions involving a criminal activity will be reported to the public prosecution.

3.5 To maintain an enforcement policy that supports the implementation of SMS, the GCAA will maintain an open communication channel with service providers.

The GCAA will ensure that no data and information derived from safety data collection and processing systems (established under an SMS and SSP) is used in a manner that contradicts UAE POLICY ON PROTECTION OF SAFETY DATA, SAFETY INFORMATION AND RELATED SOURCES unless a principle of exception as prescribed in 5.1 of UAE Enforcement Policy applies.

3.6 The unintentional contraventions which are committed by a service provider personnel operating under an SMS, other than the ones mentioned in 3.4, shall be dealt with under specific review procedures agreed with the GCAA in the individual service provider's SMS documentations. This will allow service providers to deal with such contraventions internally without necessarily involving the GCAA.

3.7 Notwithstanding the procedures referred to in 3.6, the GCAA inspectors shall have the right to access and review the information generated as a result of implementing the procedures.

3.8 This approach aims to nurture and sustain effective safety reporting, whereby service providers' employees can report safety deficiencies and hazards without fear of punitive action. A service provider can therefore, without apportioning blame and without fear of enforcement action, analyse the event and the organisational or individual factors that may have led to it, in order to incorporate remedial measures that will best help prevent recurrence.

3.9 The inspector will evaluate the corrective measures proposed by the service provider and/or the systems currently in place to address the event underlying the contravention.

3.10 If the corrective measures proposed are considered satisfactory and likely to prevent recurrence and foster future compliance, the review of the violation should then be concluded with no further punitive enforcement action by the GCAA.

3.11 In cases where either the corrective measures or the systems in place are considered inappropriate, the GCAA will continue to interact with the service provider to find a satisfactory resolution that would prevent enforcement action. However, in cases where the service provider refuses to address the event and provide effective corrective measures, an enforcement action or other administrative action will be considered.

3.12 Breaches of aviation regulations may occur for many different reasons, from a genuine misunderstanding of the regulations, to disregard for aviation safety. The UAE has a range of enforcement options to effectively address safety obligations in light of different circumstances. A contravention may result in one or more of the following enforcement actions:

a) counselling;
b) remedial training;
c) warning letter;
d) variation, suspension or revocation of authorisations; or
e) criminal prosecution.

3.13 In addition to 2.12, the GCAA may forbid a person from flying in the territory of the UAE or from exercising the privileges of an aviation licence or other authorisation, for a specified period of time or indefinitely.

3.14 Because the UAE strives for advanced positive culture, a reconsideration process has been established to allow review of any decision made by the GCAA. A reconsideration can be lodged against an enforcement decision or the suspension or revocation of a licence, certificate, approval, or authorisation. For information, such provision also applies when a refusal of a licence, certificate, approval, or authorisation

4 PROPORTIONALITY OF RESPONSES

Enforcement decisions must be proportional to the identified breaches and the safety risks they underlie, based on three principles:

a) The GCAA will take action against those who consistently and deliberately operate outside civil aviation legislations and regulations;
b) The GCAA will seek to educate and promote training or supervision of those who show commitment to resolving safety deficiencies; and
c) The GCAA will give due and equitable consideration to distinguish premeditated violations from unintentional errors or deviations.

5 NATURAL JUSTICE AND ACCOUNTABILITY

5.1 Enforcement decisions must:

a) be fair and follow due process;
b) be transparent to those involved;
c) take into account the circumstances of the case and the attitude/actions of the service provider or individual when considering action;
d) be consistent actions/decisions for like/similar circumstances; and
e) be subject to appropriate internal and external review.

5.2 Enforcement decisions must not be influenced by:

a) personal conflict;
b) personal gain;
c) considerations such as gender, race, religion, political views or affiliation; or
d) personal, political or financial power of those involved.

5 EXCEPTIONS

5.1 The GCAA will not use the safety data or information submitted under safety data collection and processing systems for enforcement. However, the GCAA may consider an enforcement action for purposes of improving safety if investigations reveal that an occurrence may have been caused by an act or omission considered to be conduct constituting gross negligence, wilful misconduct or criminal activity.

5.2 Notwithstanding Clause 5.1, the GCAA shall not be prevented from using safety data or safety information to take any preventive, corrective or remedial action necessary to maintain or improve aviation safety.

5.3 The protection of safety data and information and its sources against enforcement action does not apply if there is evidence of a deliberate effort to conceal non-compliance.

5.4 The handling of unintentional contraventions under the specific review procedures mentioned in Clause 2.7 does not apply if a service provider is deemed by the GCAA as a recurrent violator.

APPENDIX 5: UAE SAFETY OBJECTIVES

The UAE aims at achieving a high level of safety performance through effective implementation of safety management functions and oversight in order to achieve zero fatal accidents and to reduce the rate of serious incidents to as low as reasonably practicable, mitigate the key risks contained in the Global Aviation Safety Plan and those risks pertinent to the UAE operational environment.

To achieve this, The UAE will:

a) Implement a robust hazard identification and risk mitigation methodology to proactively arrest safety risks.
b) Continuously monitor safety performance at state level to ensure the effectiveness of the mitigations and to achieve an Acceptable Level of Safety Performance.
c) Build and improve its capabilities, capacities and skill sets necessary for an effective performance of its safety management and safety oversight functions.
d) Promote a positive safety culture in the civil aviation sector, share knowledge, lessons learned and exchange safety information within the UAE civil aviation sector and with external stakeholders.

APPENDIX 6: UAE NATIONAL AVIATION SAFETY PLAN

Introduction:

In line with the 39th ICAO Assembly resolution A39-12 where the importance is recognized of effective implementation of national aviation safety plans, The United Arab Emirates National Aviation Safety Plan UAE NASP has been developed in conjunction with ICAO document (Doc 10004) 2017-2019 Global Aviation Safety Plan (GASP), to present the UAE's strategic direction for the management of aviation safety at the national level. The intent of this NASP is to create a roadmap to achieve the UAE safety objectives and manage and enhance safety by focusing action where it is most needed. It will also provide a transparent means to disclose how the UAE GCAA and the service providers will work to identify hazards and manage operational safety risks and emerging issues.

The UAE NASP will be reviewed by the SSPCG annually as well as whenever a need arises as a result of information generated through the SSP. The level of achievement of ALoSP will be updated through the quarterly safety reports which will be published via Information Bulletins.

Responsibility:

The UAE General Civil Aviation Authority is responsible for the development, implementation and the continuous monitoring of the UAE NASP. Therefore, as a member state and an elected member to The Council of ICAO, the UAE in order to effectively implement this Plan will coordinate it with, Regional Safety Oversight Organisations (RSOOs), regional aviation safety groups MID-RASG and ICAO to set priorities, targets and indicators consistent with the GASP objectives with the view to reduce the number and rate of aircraft accidents and incidents.

1. UAE SAFETY OBJECTIVES RATIONALE

1.1 The UAE has established safety objectives (Appendix 5) based on the key risks in the aviation system. This begins with considering the GASP top priorities of LOC-I, Runway events and CFIT which are also cascaded to the regional safety plans originated by RASG MID.

Moreover, in order to identify key risks, identifying hazards is an essential part of a Safety Management in any organisation. It is understood that hazards shall always be in any aviation activity and will have the potential to cause aircraft incidents or accidents. As such, the UAE has developed Hazard Identification processes and systems to address the issues and communicate them to external stakeholders.

The UAE uses the safety reports and trend analysis available to it, as well as outcomes of accidents and serious incidents investigations, or deficiencies discovered through audits as sources to develop objectives. These activities may generate information about key risks or trends that may need attention and monitoring.

The UAE has established operational plans and internal audits and reviews to identify areas in need of improvement and to targets areas that will assist in achieving the safety objectives accordingly. For example: inspector competency assurance activities, training inspectors on SMS and SMS audit, filing of differences, surveillance plans, rulemaking and safety promotion activities are all activities that will help in increasing the overall level of safety, thereby serving the safety objectives.

Based on the above, the UAE safety objectives can be divided into two categories; outcome oriented (primary) and process oriented (secondary).

1.1 For the outcome oriented objectives (High level and low level, the following areas are targeted for reduction in rates:

1. **Flight Operations:**

- Number of accidents in Commercial Air Transport Operations- Scheduled/Air Carriers.
- Number of accidents in Commercial Air Transport Operations-Non-scheduled (Aeroplanes).
- Number of accidents in Commercial Air Transport Operations-Non-scheduled (Helicopters).
- Number of accidents in Commercial Air Transport Operations-Non-scheduled (Balloons).
- Number of serious incidents in Commercial Air Transport Operations-Scheduled (Air Carriers).
- Number of serious incidents in Commercial Air Transport Operations-Non-scheduled (Aeroplanes).

- Number of serious incidents in Commercial Air Transport Operations-Non-scheduled (Helicopters).
- Loss of Control Inflight LOC-I.
- Controlled Flight into Terrain CFIT.
- Runway events (excursion).
- Fire/Smoke/Fumes (FIRE).
- Airprox/ACAS alert/loss of separation/ (near) Mid-Air-Collision (MAC).
- Ground collision and ground handling events.

2. Aerodromes and Air Navigation (High Level and Low Level):

- Airborne Separation Minima Infringement – ASMI.
- Level Bust.
- Runway Incursions.
- Loss of Runway Separation.
- Maneuvering Area Excursion.
- FOD incidents.
- Bird and Wildlife.
- Taxiway Incursions.
- Damage to Aircraft.

3. Airworthiness:

- Maintenance Interval Exceedance (CAMO) Air Carrier.
- Maintenance Interval Exceedance (CAMO) Air Transport.
- Maintenance Error - Line Maintenance.
- Maintenance Error - Base Maintenance.

1.2 **For process oriented objectives (safety enhancement initiatives aiming at overall improvement of safety) the following areas are targeted:**

- Promotion of safety culture through execution of Safety promotion/ information sharing.
- Activities and workshops (internal and external).
- Completion of filing of differences with ICAO standards.
- Training personnel on SMS and SSP.
- Implementation of risk based surveillance.
- Building analytical and investigative capabilities.

- Continuous improvement of safety management standards.
- Performance of Internal audits.
- Publication of safety reports and sharing of safety information.
- Surveillance activities.

SAFETY PLAN ACTIONS

The actions contained in the UAE NASP are targeted towards the achievement of the outcome oriented safety objectives, managing emerging issues and identifying trends of interest.

In order to devise action plans, a target for the objectives is set. For the outcome based objectives, the safety performance targets form a part of the UAE ALOSP. Each objective has a target assigned to it. The individual targets are monitored on quarterly basis and alert levels are set. The UAE GCAA and the service providers agree on the necessary actions to ensure that the targets are met.

The SSPCG monitors the overall performance, proposes revisions to objectives and targets and reports performance issues to the higher management

The process oriented objectives of the UAE do not form a part of the ALOSP as there is no direct relationship between them and the outcome oriented objectives. Their importance in achieving a higher level of safety standards is recognised. They are contained in the GCAA annual operational plans, training plans and audit plans which do contribute to the overall improvement of safety.

UAE ALOSP:

The following targeted areas are verified by the UAE through inspections and audits performed against the service providers and the continuous safety reporting and the quarterly SPT reports of individual service providers. Triggers levels are established or have a criteria value for a particular safety performance indicator that serves to initiate an action required.

Flight Operations Domain related SPIs:

Fire/Smoke/Fumes (FIRE) per 100,000 Flight Hours.

Uncontrolled fire on board an aircraft, especially when in flight, represent one of the most severe hazards in aviation. In-flight fire can ultimately lead to loss of control, either as a result of structural or control system failure, or again as a result of crew incapacitation. Fire on the ground can take hold rapidly and lead to significant casualties if evacuation and emergency response is not swift enough. Smoke or fumes, whether they are associated with fire or not, can lead to passenger and crew incapacitation and will certainly raise concern and invite a response. Even when they do not give rise to a safety impact, they can give rise to concerns and need to be addressed.

The State focuses on the following precursors to act upon LOC-I incidents:

- Engine fire
- Fire/smoke/fumes

Target: <2.95/100 000 FH

Actual performance average period ending Q2-2019: 2.65/100 000 FH

Existing Controls:

1. Regulations (cabin crew training)
2. Continuing Oversight (Enroute Inspections)
3. Quarterly review of Operator SPI performance
4. Individual operators mitigations in agreement with the GCAA
5. Fire prevention measures (dangerous goods)

Additional Controls: None

Loss of Control – inflight (LOC-I) per 100,000 Flight Hours.

The EPAS 2017-2021 states that Loss of control usually occurs because the aircraft enters a flight regime which is outside its normal envelope, usually, but not always, at a high rate, thereby introducing an element of surprise for the flight crew involved.
Events such as a deviation from flight path, abnormal airspeed or triggering of stall protections when not dealt with properly can lead to fatal consequences involving many fatalities. Technical failures as well as ground handling issues can be also a precursor of this type of scenarios.

The State focuses on the following precursors to act upon LOC-I incidents:

- Excessive roll attitude or roll rate (Increased roll attitude or rate).
- Stall warning/stick shaker.
- Excessive speed/vertical speed/accelerations (vertical or configuration).
- Low go-around or rejected landing (go-around).
- High pitch angle.
- Failure of primary flight instruments.
- Laser attacks.

2019 Target: ≤7.74/100 000 FH

Actual performance average period ending Q2-2019: 8.39/100 000 FH

Existing Controls:

1. Upset Prevention and Recovery Training (UPRT) regulations in CAR OPS
2. Inclusion of LOC-I in the FDM programmes
3. Individual operators mitigations in agreement with the GCAA
4. Quarterly review of Operator SPI performance

Additional Controls: None

Controlled Flight into or toward terrain (CFIT) per 100,000 Flight Hours.

Inflight collision or near collision with terrain, water, or obstacle without indication of loss of control. The following precursor indicators are set as mean to monitor this objective:

- EGPWS hard warnings
- Descent below MSA
- Navigation errors

2019 Target: ≤0.85/100 000 FH

Actual performance average period ending Q2-2019: 0.89/100 000 FH

Existing Controls:

1. Mandating EGPWS/ TAWS in CAR OPS
2. Inclusion of CFIT in operators FDM programmes
3. Individual operators mitigations in agreement with the GCAA
4. Quarterly review of Operator SPI performance

Additional Controls: None

Runway Excursion (RE) per 100,000 Flight Hours. Following are precursors:

- High speed rejected take-off
- Take-off with abnormal configuration
- Unstable shortly before landing
- Abnormal runway contact/Hard or heavy landing
- Loss of control on ground
- Long or fast landings.
- Landing gear and braking system related occurrences

2019 Target: ≤ 8.85/100 000 FH

Actual performance average period ending Q2-2019: 8.19/100 000 FH

Existing Controls:

1. Inclusion of runway Excursion in the operators FDM
2. Individual operators mitigations in agreement with the GCAA
3. Quarterly review of Operator SPI performance

Additional Controls: None

Airprox/ACAS alert/loss of separation/ (near) Mid-Air-Collision (MAC) per 100,000 Flight Hours. Following are precursors:

- TCAS/ACAS Resolution Advisory
- Losses of separation
- Level Busts
- Airspace infringements

Target: ≤11.91/100 000 FH

Actual performance average period ending Q2-2019:14.23/100 000 FH

Existing Controls:

1. Mandating TCAS/ ACAS in CAR OPS.
2. Individual operator's mitigations in agreement with the GCAA.
3. Quarterly review of Operator SPI performance.

Additional: None

Ground Collision (GCOL) and Ground handling (RAMP) per 100,000 Flight Hours. Following are precursors:

- Taxiway incursions
- Avoiding maneuvers during taxi
- Aircraft collisions and collisions with aircraft
- Loading errors

2019 Target: ≤16.22/100 000 FH

Actual performance average period ending Q2-2019: 15.95/100 000 FH

Existing Controls:

1. CAAP 46 on Ground Handling.
2. Stations inspections.
3. Quarterly review of Operator SPI performance
4. Oversight of operator responsibilities towards ground handling.

Additional Controls: None

Air Navigation and Aerodrome Domain related SPTs:

As mentioned above, the outcome oriented objectives are related to the State's ALoSP. Service Providers submit data quarterly to ANA department. The results from the individual organisations are collated to determine annual ALoSP and Safety Performance Targets (SPT) for selected Safety Performance Indicators (SPI). Following are the high and low level SPTs for which ANA is responsible for.

Airborne Separation Minima Infringement (ASMI) per 100,000 Movements

Whenever an incident in which a reduction for required separation occurs during the airborne phase of flight in the controlled airspace, where the separation has fallen to:

- Remaining 25% or less, regardless of whether or not corrective action to avoid collision was taken.
- Remaining 26 – 50% of the required minimum and no ATC action is taken or the initial action was determined by the pilot or ACAS to resolve.
- Remaining 26 – 50% of the required minimum and ATC resolved the situation.
- Remaining 51 – 75% of the required minimum and no ATC action is taken or the initial action was determined by the pilot or ACAS to resolve.
- Remaining is 51 up to but not including 90% of the required minimum and ATC resolved the situation.
- Remaining is 76% or more and pilot or ACAS resolved the situation.

- Remaining is 90% or more where ATC resolved the situation.

2019 Target: 6.77

Actual Performance: 3.67 at end of August

Existing Controls:

- Monthly analysis of incident data to identify common procedures, errors, habits and external threats that are causal factors
- ATCO Continuation Training
- Regular organisational ATC safety briefings
- Organisational Safety Bulletins/Newsletters to staff
- Sharing of incident data & mitigations – regular Operator-ATC Safety liaison meetings
- Organisational NOSS to identify additional Threat and Error Management Factors (TEM)
- ATS unit working with Operator training department to produce common safety campaigns and training materials such as acceptable radiotelephony phraseology
- ATCOs attendance to Operator CRM Course to promote a better understanding and appreciation between pilots and ATCOs
- Increased availability of Mode S readouts to controllers (ATCO can see the altitude pilot has entered in navigation system)

Additional Controls: None

Remarks: within target

Level Bust per 100,000 Movements

This is specified as an incident where an aircraft deviated from the assigned flight levels, but there was no loss of separation.

2019 Target: 8.68

Actual Performance: 4.58 at end of August 2019

Existing Controls

- Monthly analysis of incident data to identify common procedures, errors, habits and external threats that are causal factors
- ATCO Continuation Training including readback/hearback error prevention
- Regular organisational ATC Watch safety briefings
- Organisational Safety Bulletins/Newsletters to staff
- Sharing of incident data & mitigations – regular Operator-ATC Safety liaison meetings

- Organisational NOSS to identify additional Threat and Error Management Factors (TEM)
- ATS unit working with Operator training department to produce common safety campaigns and training materials such as acceptable radiotelephony phraseology
- ATCOs attendance to Operator CRM Course to promote a better understanding and appreciation between pilots and ATCOs
- Increased availability of Mode S readouts to controllers (ATCO can see the altitude pilot has entered in navigation system)
- TCAS requirement
- Reduction of crossing points for climbing/descending aircraft
- Use of "holding window" software for ACC controllers

Additional Controls: Declaration of National Targeted Risk Area (NTRA) for greater emphasis on this safety-critical area

Remarks: Within Target

Loss of Runway Separation per 100,000 Movements

Incidents when the reduction in required runway separation occurred where a collision was narrowly avoided by:

- Corrective action or evasive response.
- Significant potential for collision may result in a time critical evasive response to avoid a collision.
- There is ample time or distance to avoid a potential collision whether by the ATC or determined by the Pilot.

2019 Target: 2.02

Actual Performance: 1.32 at end of August 2019

Existing Controls:

- Monthly analysis of incident data to identify common procedures, errors, habits and external threats that are causal factors
- ATCO Continuation Training including RRSM
- Regular organisational ATC safety briefings
- Organisational Safety Bulletins/Newsletters to staff
- Sharing of incident data & mitigations – regular Operator-ATC Safety liaison meetings
- Organisational NOSS survey to identify additional Threat and Error Management Factors (TEM)
- ATS unit working with Operator training department to produce common safety campaigns and training materials such as acceptable radiotelephony phraseology
- ATCOs attendance to Operator CRM Course to promote a better understanding and appreciation between pilots and ATCOs

- Use of timers and strict procedures for takeoff and landing minima
- Increased supervision in busier towers to ensure adequate operational oversight particularly during use of Reduced Runway Separation Minima (RRSM)

Additional Controls: Declaration of National Targeted Risk Area (NTRA) for greater emphasis on this safety-critical area.

Remarks: Within Target

Runway Incursions per 100,000 Movements

Defined as an occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft, where any of the following occurred:

- Serious incident or collision was narrowly avoided.
- Significant potential for collision, which may result in time critical evasive response to avoid a collision.
- An incursion characterised by ample time and/or distance to avoid a collision.
- No immediate safety consequences.
-

2019 Target: 5.32

Actual Performance: 3.36 at end of August 2019

Existing Controls:

- Monthly analysis of incident data to identify common procedures, errors, habits and external threats that are causal factors
- ATCO Continuation Training including runway incursion prevention
- Regular organisational ATC safety briefings
- Organisational Safety Bulletins/Newsletters to staff
- ATCOs attendance to Operator CRM Course to promote a better understanding and appreciation between pilots and ATCOs
- Introduction of driver training simulators
- Ground Movement Radar (GMR) upgrades
- Safety Days for Driver Training and Apron Safety
- Expansion of Follow the Greens concept
- Establishment of Local Runway Safety Team for each aerodrome
- Organisational participation in National Runway Safety Team meetings
- Identification and review of Hot Spots
- Improvements in recording and tracking of reports
- Harmonisation of stop bars guidance material
- Lighting, markings, signage reviewed during periodic surveillance audits

- Individual service providers SPM mitigation plans agreed with the GCAA
- Enhanced taxiway markings
- Use of LED lighting
- "Runway Ahead" paint markings

Additional Controls: None

Remarks: Within Target

Maneuvering Area Excursion per 100,000 Movements

This covers all incidents in which an aircraft had an excursion from a runway or taxiway – i.e. overruns, excursions off the side of the runway or taxiway, where the result was either damage to the aircraft or not.

2019 Target: 1.19

Actual Performance: 0.36 at end of August 2019

Existing Controls:

- Monthly analysis of incident data to identify common procedures, errors, habits and external threats that are causal factors
- ATCO Continuation Training including unstabilised approach
- Regular organisational ATC safety briefings
- Organisational Safety Bulletins/Newsletters to staff
- Liaison between relevant local ATC units and flight schools (nearly all UAE excursions are by student pilots)
- Runway surface friction monitoring and maintenance
- Annual pavement management surveys
- Taxiway fillets
- Blue edge lights on taxiway curves
- Promulgation of runway status via ATIS/NOTAM
- Accurate and timely reporting of ambient weather conditions by ATC
- Approved low visibility procedures
- Individual service providers SPM mitigation plans agreed with the GCAA

Additional Controls: None **Remarks:** Within Target

FOD per 100,000 movements

2019 Target: 12.27
Actual Performance: 9.96 at end of August 2019

Existing Controls

- Inspections
- Induction and training programmes
- FOD Detection Radar at Dubai International Airport
- Promotional campaigns (FOD workshop at DXB on 24/10/19 that included presentations from GCAA, Bridgestone Tyres and other SME's)

Additional Controls: None **Remarks:** Within Target

Bird and Wildlife per 100,000 movements

2019 Target: 61.23
Actual Performance: 56.65 at end of August 2019

Existing Controls

- Training
- Habitat management
- Wildlife management plans
- Surveys of wildlife concentrations of aerodrome

Additional Controls: None **Remarks:** Within Target

Damage to Aircraft per 100,000 movements

2019 Target: 6.27
Actual Performance: 4.44 at end of August 2019

Existing Controls:

- Turnaround audits
- Joint audits with GHA
- Enhanced SOP's,
- Vehicle and equipment checks.

Additional Controls:

- SMS audits of GHA by airports.
- violation scheme (including reward incentives);

Remarks: Within Target

Taxiway Incursions per 100,000 movements

2019 Target: 71.44
Actual Performance: 58.93 at end of August 2019

Existing Controls:

- Local Runway Safety Team/Apron Safety Committee
- Now monitoring as SPI
- Training
- Incident investigations
- Additional signage/markings to enhance hotspots,
- Promulgation of hotspot charts
- Low Visibility Procedures

Additional Controls: full signage and designation review at Abu Dhabi International Airport
Remarks: Within Target

Airworthiness Domain related SPTs:

- **Maintenance Interval Exceedance (CAMO) Air Carrier per 100,000 Flight Hours.**
- **Maintenance Interval Exceedance (CAMO) Air Transport per 100,000 Flight Hours.**
- **Maintenance Error - Line Maintenance per 100,000 Departures.**
- **Maintenance Error - Base Maintenance per 100,000 Productive Man Hours.**

Remarks: All are within Target as per end of Q2 - 2019

Existing controls:

- CAR X requirement on service providers for the analysis of incident data to identify common causal factors related to procedures and habits to develop effective risk controls
- CAR M requirements for establishing maintenance programmes and compliance with mandatory maintenance requirements.
- Annual Audits

- CAMO and AMO Safety Information Exchange Working Groups
- Individual service providers SPM mitigation plans agreed with the GCAA
- Targeted surveillance activities
- Continual review of the Organisation's procedures.

Actions to be taken when SPT(s) are not met:

If any of the SPTs is not met, an evaluation may be done by the SSPCG to better understand why and to determine what actions should be taken. It could be because:

a) The targets were not achievable or realistic;
b) The actions taken to achieve the target were not appropriate or deviated from the original intent (practical drift);
c) changes in other safety risk priorities diverted resources away from meeting a particular target; or
d) Emerging risks occurred that had not been considered when the targets were set.

The evaluation will be directed to understand root causes and for a management decision on whether the safety improvement is sufficient even if the target has not been met, and what further actions are required. This may require additional analysis that could identify some risk factors that were not addressed or maybe some risk mitigations in place that are not effective.

Other trends of interest:

In addition to monitoring the outcome oriented objectives, The GCAA, based on data derived from its occurrence reporting system is monitoring the following for abnormal and emerging trends every quarter. These trends may need management through the Safety Issue Action Management process or through the NASP. These trends and issues are identified as the following (it is to be noted that these issues could re-occur during each quarter or may not, based on various issues such as but not being limited to a sudden increase in the number of reports received within a short time period, whether they were captured through our trend analysis, were they identified through the Hazard Identification and Risk Management Process:

- Unstabilized / Missed Approaches
- Aircraft related regulatory event/issue
- Damage to Aircraft (Flight Operations)
- Flight Preparation
- Turbulence encounters
- Reoccurring laser Interferences from a specific state.
- De-icing procedures
- GNSS Interferences
- Communications Flight crew/ANS

Emerging issues

Emerging issues are about attempting to anticipate issues that may pose a threat to different areas of aviation in the near future or later. They often concern changes in the operating environment. The change may be associated with the advancement of technology, new operating methods, phenomena as climate change. Increasing attention must be paid to environmental issues in aviation and their reconciliation with safety issues in the future. The UAE, similar to European practices has identified key target areas for actions to improve safety with regards to drones operations, security risks that affect aviation safety, new business models (NMB) as well as new products, systems, technologies and operations.

UAS/Drone Activities:

The UAS/drone industry is diverse, innovative and international. It has an enormous potential for growth with the associated possibility to create jobs. To ensure a safe, secure and environmentally friendly development, and to respect the citizens' legitimate concerns for privacy and data protection, GCAA has developed a regulatory framework for UAS/drone operations in the UAE. This includes introducing Laws and Regulations that govern such activities, setting requirements for users that what must be obtained and followed before engaging in this activity and providing the permitted flying zones to these users.

Risks Arising from Conflict Zones:

The Middle East and gulf region is a hotspot due to numerous conflict zones that exist and some are in close proximity to the United Arab Emirates. The United Arab Emirates is monitoring current regional developments and has called upon its air operators to evaluate and avoid flight paths which are affected due to conflict zones or restrictions. The UAE GCAA is working closely with the relevant authorities with regards to its flight operation, furthermore monitoring NOTAMs issued by other states and judge whether further changes to flight paths would be required.

UAE Initiatives towards Aviation Safety:

UAE Collaborative Safety Team

The UAE Collaborative Safety Team (CST) is a joint initiative between the GCAA, UAE Air Carriers and IATA aimed towards promoting an open exchange of safety data and information through an Industry / State collaboration model to identify and mitigate State aviation safety risks and address negative safety trends on a national and international level.

The CST is attended by Senior Safety Delegates from IATA, the UAE major commercial air carriers along with the GCAA Aviation Safety Sector, where a number of safety issues are shared from amongst all stakeholders and plans are jointly developed on how to tackle these issues and come up with action plans which will be conducted via focused safety action working groups.

National Runway Safety Team:

The UAE National Runway Safety Team was established in November 2012 with support from GCAA's HE Director General, Assistant Director General - Aviation Safety Affairs Sector, Director - Air Navigation and Aerodromes Department and support from all UAE certified aerodromes and national carriers in order to further runway safety initiatives in support of local, national and ICAO safety frameworks, the ICAO Middle East Regional Aviation Safety Group initiatives and the implementation of the Global Aviation Safety Plan (GASP) and the associated Global Aviation Safety Roadmap (GASR) in the MID Region.

The National Runway Safety Team is committed to the continuous improvement of runway safety within the UAE further to its stated objectives. The Team provides a forum for both industry and regulator to work together in an environment, which is conducive to multidisciplinary interactions, and open sharing of safety related experiences and information.

The NRST is guided by its Terms of Reference as well as the NRST Safety Plan (2014-2016) which is endorsed by the management of the GCAA. The content of the Plan is the result of the combined and

sustained efforts of the NRST Study Group members and organisations/departments representing all areas of runway operations. The intention is to enhance runway safety by advocating the implementation of the NRST Safety Enhancement Initiatives according to a scheduled plan of works. The contributing organisations include Aerodrome Operators, Air Navigation Services Providers, Aerodrome Emergency Services, Aircraft Operators and the General Civil Aviation Authority.

Purpose:

To strengthen communication and coordination within industry in order to support and develop local aerodrome runway safety teams and identify, prioritise and implement national runway safety initiatives in order to ensure continued and improved runway safety within the UAE.

Objectives of the NRST:

- Support local runway safety teams and actions groups at each UAE certified aerodrome.
- Establish a framework for identification, prioritisation and implementation of national runway safety initiatives.
- Support the UAE State Safety Programme/
- Analyse safety information and hazards to civil aviation at the national level and review the supporting action plans.
- Facilitate the sharing of safety information and experiences among all stakeholders.
- Reduce duplication of efforts by encouraging collaboration, cooperation and resource sharing.
- Coordinate with existing GCAA technical committees on safety issues and;
- Promote industry runway safety training, awareness and promotional events

CAMO and AMO Safety Information Exchange Working Groups:

Similar to the UAE CST this workshop also Promotes an open exchange of safety information aimed at continuously improving aviation safety through a voluntary Industry / State collaboration model, using the sharing of safety information to identify and mitigate State aviation safety risks. Member ship for the CAMO IE is open to safety departments of UAE AMOs (A&B Ratings) and the GCAA.

Safety Consultative Committees

The GCAA has formed dedicated consultative committees and groups in various disciplines as a platform for safety communications and to resolve issues of general interest. These committees are held periodically as per the GCAA operational plans.

Provision of Data, conducting Safety Studies/Trend Analysis for external stakeholders:

To promote an open exchange and sharing of safety data and information with the industry, the GCAA started to implement a new platform for safety data and information sharing and exchange. It is a service, through which GCAA approved UAE based organisations can request and utilize Data collected from the GCAA Safety Data Collection and Processing Systems (SDCPS) in a de-identified form. This in turn will assist organisations to:

- set their safety performance indicators/Targets (SPIs/SPTs) and alert levels, when applicable;
- identify emerging concerns existing within their domain of activities or within another domain of aviation;
- Highlight safety trends, safety targets;
- benchmark their performance;
- Take immediate corrective actions;
- Promote safety; and
- Conduct safety risk assessment.

APPENDIX 7: UAE POLICY ON PROTECTION OF SAFETY DATA, SAFETY INFORMATION AND RELATED SOURCES

This policy is promulgated under the statutory authority in Federal Law No. (04) 1996, enabling the GCAA to undertake the promulgation of general policy for civil aviation.

1 PURPOSE

1.1 The protection of safety data, safety information and related sources is essential to ensure their continued availability, since the use of safety data and safety information for purposes other than maintaining or improving safety may inhibit the future availability of such data and information, with a significant adverse effect on safety.

1.2 This policy is developed to ensure that:

a) a balance is struck between the need for the protection of safety data, safety information and related sources to maintain or improve aviation safety, and the need for the proper administration of justice;
b) safety data, safety information and related sources are protected;
c) the conditions under which safety data, safety information and related sources qualify for protection are specified; and
d) safety data and safety information remain available for the purpose of maintaining or improving aviation safety.

1.3 The protection of safety data, safety information and related sources is not intended to interfere with the proper administration of justice or with maintaining or improving safety.

1.4 When an investigation under CAR PART VI Chapter 3 (i.e. Annex 13) has been instituted, the following accident and incident investigation records will be subject to the protection accorded therein instead of the protection accorded by this policy:

a) cockpit voice recordings and airborne image recordings and any transcripts from such recordings; and
b) records in the custody or control of the accident investigation authority being:
   i. all statements taken from persons by the accident investigation authority in the course of their investigation;
   ii. all communications between persons having been involved in the operation of the aircraft;
   iii. medical or private information regarding persons involved in the accident or incident;
   iv. recordings and transcripts of recordings from air traffic control units;
   v. analysis of and opinions about information, including flight recorder information, made by the accident investigation authority and accredited representatives in relation to the accident or incident; and
   vi. the draft Final Report of an accident or incident investigation.

2 PRINCIPLES OF PROTECTION

2.1 The UAE will strive to ensure that safety data or safety information is not used for:

a) disciplinary, civil, administrative and criminal proceedings against employees, operational personnel or organisations;
b) disclosure to the public; or
c) any purposes other than maintaining or improving safety;

unless a principle of exception applies.

2.2 Each State authority is the designated custodian of the safety database(s) it administrates. Consequently, each state authority will apply the protection to safety data and safety information in accordance with applicable provisions of this policy.

2.3 Each State authority will assure protection of safety data and safety information and related sources, especially if information provided is self-incriminating.

2.4 Each custodian of safety database(s) will grant access to the data and information contained in their safety database(s) to support UAE's authorities involved in the implementation of the State Safety Programme (SSP) to discharge their functions and responsibilities

3 PRINCIPLES OF EXCEPTION

3.1 Exceptions to the protection of safety data, safety information and related sources will only be granted when the State authority:

a) determines that there are facts and circumstances reasonably indicating that the occurrence may have been caused by an act or omission considered, in accordance with national laws, to be conduct constituting gross negligence, willful misconduct or criminal activity;
b) after reviewing the safety data or safety information, determines that its release is necessary for the proper administration of justice, and that the benefits of its release outweigh the adverse domestic and international impact such release is likely to have on the future collection and availability of safety data and safety information; or
c) after reviewing the safety data or safety information, determines that its release is necessary for maintaining or improving safety, and that the benefits of its release outweigh the adverse domestic and international impact such release is likely to have on the future collection and availability of safety data and safety information.

3.2 State authorities can use safety data or safety information to take any preventive, corrective or remedial action that is necessary to maintain or improve aviation safety.