



State Safety Programme of Islamic Republic of IRAN

(Issue 02/Revision 00/ January 2020)



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Amendment Records

Amendment Records				
Issue No.	Rev No.	Date	Inserted by	Remarks
01	00	February 2013	Accident and Incident Investigation	Initial Release
02	00	January 2020	Safety & Quality Assurance Department	<ul style="list-style-type: none"> - Considering the SSP Gap Analysis Results - Take into account the 4th Edition of ICAO Doc 9859 - Considering the changes within CAO IRI's structure - Considering the GASP - Considering the MRUD's Transportation Safety program

Minister's Foreword

Air transportation is a clear manifestation of technological and scientific development, functioning as a driving force behind them. It has caused enhancement of life quality in human communities. Air transportation is now recognized as the quickest and safest mode of transportation, with 2.42 accidents per one million flights globally and 12.2 fatalities per one billion passengers carried in 2017.

GDP of IR of IRAN accounts for 0.71 percent of the world economy, where air transportation sector with approximately 0.2 percent contribution, has created over 24,000 job opportunities. Movement of more than 30,000,000 passengers in the year 2018 indicates the significant role of air transportation industry in the country's economy. The focal point of aviation industry is the establishment of safety standards, which is considered of the key requirements of sustainable growth and development.

Aviation industry is growing fast worldwide, especially in the west of Asia. Likewise, the commercial and operational industries dependent on it have developed. Therefore, effective safety management system should play a great role in all aspects of the industry.

The Ministry of Roads and Urban Development of I.R. of IRAN has developed a Comprehensive Air Transportation Programme for the twenty-year period between 2010-2030 with the aim of drawing up an integrated and coordinated plan, including different modes of transportation, to implement a long-term goal for construction and development of the country's intercity transportation infrastructures. The programme was reviewed in July 2018.

The Ministry of Roads and Urban Development of I.R. of IRAN emphasizes continuous and close cooperation of the CAO IRI with the industry's stakeholders in order to establish and implement State Safety Programme (SSP) and to enhance safety management across the aviation industry, so that the continuous improvement in aviation safety will be identified as a top priority and prime concern in all air transport-related activities.



Mr. Mohammad Eslami
Minister for Roads and Urban Development of I.R. of IRAN

CAO President's Statement

The Civil Aviation Organization has presented the State Safety Programme of I.R. of Iran in an integrated manner, which includes a set of regulations, duties, responsibilities, and activities in line with improving the country's aviation safety. The International Civil Aviation Organization requires a signatory state to the Convention on International Civil Aviation (also known as the Chicago Convention) to establish and effectively implement an SSP.

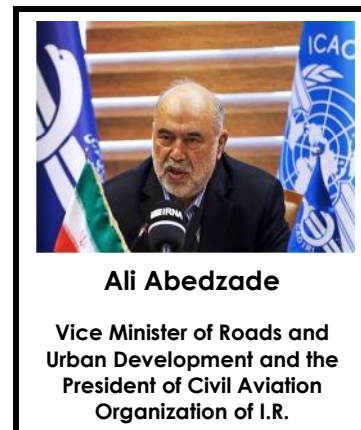
Amidst the on-going operations and ceaseless transformation of the aviation system, the management of aviation safety has to evolve beyond ensuring compliance with the regulations. The industry should develop their Safety Management Systems to proactively identify, assess and manage safety risks. States are expected to integrate various aviation safety activities such as policy development, safety assurance, enforcement and safety promotion activities into a coherent program.

Aviation safety is not the sole responsibility of States or service providers. It is a shared responsibility to which all stakeholders should contribute by compliance with safety requirements and effective safety management to achieve an acceptable level of safety performance.


Thus, this document describes the policies, regulations, roles, responsibilities, processes and practices that are put in place by the CAO IRI to comply with ICAO's SSP requirements in addition to make the I.R. of Iran's civil aviation system benefit from the establishment and implementation of safety management system.

CAO IRI fully supports the effort made by the ICAO to mandate the SSP as a basis for a state to manage aviation safety activities. It is important that the SMS approach be extended to the state level, in the form of the SSP.

The SSP approach enables a State to proactively assess safety risks and to formulate strategies and devise tactics to best mitigate such risks. Aviation safety is paramount to the sustainability of international aviation. It is crucial for CAO IRI to address current and emerging safety risks proactively and effectively.



Mr. Ali Abedzadeh
Vice Minister of Roads and Urban Development and the President of Civil Aviation Organization of I.R. of IRAN (CAO IRI)



Introduction

Annex 19 to the Convention on International Civil Aviation contains the requirement for Contracting States to establish, implement and maintain an SSP, in order to achieve an acceptable level of safety in civil aviation. ICAO defines the SSP as an integrated set of regulations and activities aimed at improving safety. In other words, the SSP goes beyond the conventional safety oversight activities, to include various aspects of safety management, such as top-level objectives, accident and incident investigation, legislation and regulations, safety risk management, safety assurance and safety promotion. The SSP also describes how the safety performance of the State as a whole interacts with service providers' safety performance under their SMS.

Accordingly, as a signatory to the Convention on International Civil Aviation, Iran undertakes to regulate civil aviation safety in accordance with international standards. CAO IRI is the authority tasked to carry out the Chicago Convention and implement the Annexes to the Convention with respect to aviation safety.

Islamic Republic of Iran is implementing its SSP commensurate with the complexity of its aviation system. This document describes the structure of the SSP and associated programmes, how the various components work together including the policies, processes and practices that are put in place by CAO IRI in line with the following ICAO SSP foundation and components. Also, the roles of CAO IRI, as the only civil aviation authority in Iran, and other entities that participate in the implementation and maintenance of the SSP are included in this document.

The Universal Safety Oversight Audit Programme protocol questions are considered as the SSP foundation and the CEs of a state safety oversight system form the foundation.

With the First Edition of Annex 19, States were expected to establish and implement two sets of provisions; these were the eight critical elements of a State's safety oversight system; and the four components of an SSP. The safety oversight aspect reflected the traditional role of the State, which is to ensure the effective implementation by the

aviation industry of prescriptive SARPs, while the SSP represented the incorporation of safety management principles.

The safety oversight system and the SSP were closely connected in terms of the safety objectives that each seeks to achieve. Both address the functions and responsibilities of the State; the former primarily with regard to safety oversight and compliance, and the latter with regard to safety management and safety performance. There are clearly some aspects of safety management within the eight CEs that reflect the transition to a proactive approach in managing safety.

These responsibilities have been integrated in the Second Edition of the Annex 19 and supersede all previous editions of Annex 19 on 7 November 2019 and are collectively referred to as the State's safety management responsibilities. The SARPs related to the State's safety management responsibilities, which cover both safety oversight and safety management, are interdependent and constitute an integrated approach towards effective safety management. Although the term SSP is still used in the Second Edition of Annex 19, the meaning has changed to encompass the integrated set of SARPs found in Chapter 3 of the Annex 19.

As such, the SSP is no longer described as a framework, but rather as a programme to meet the State's safety management responsibilities, which includes safety oversight. So, the SSP is part of the broad concept of state safety management. This evolution is illustrated in Figure 1.

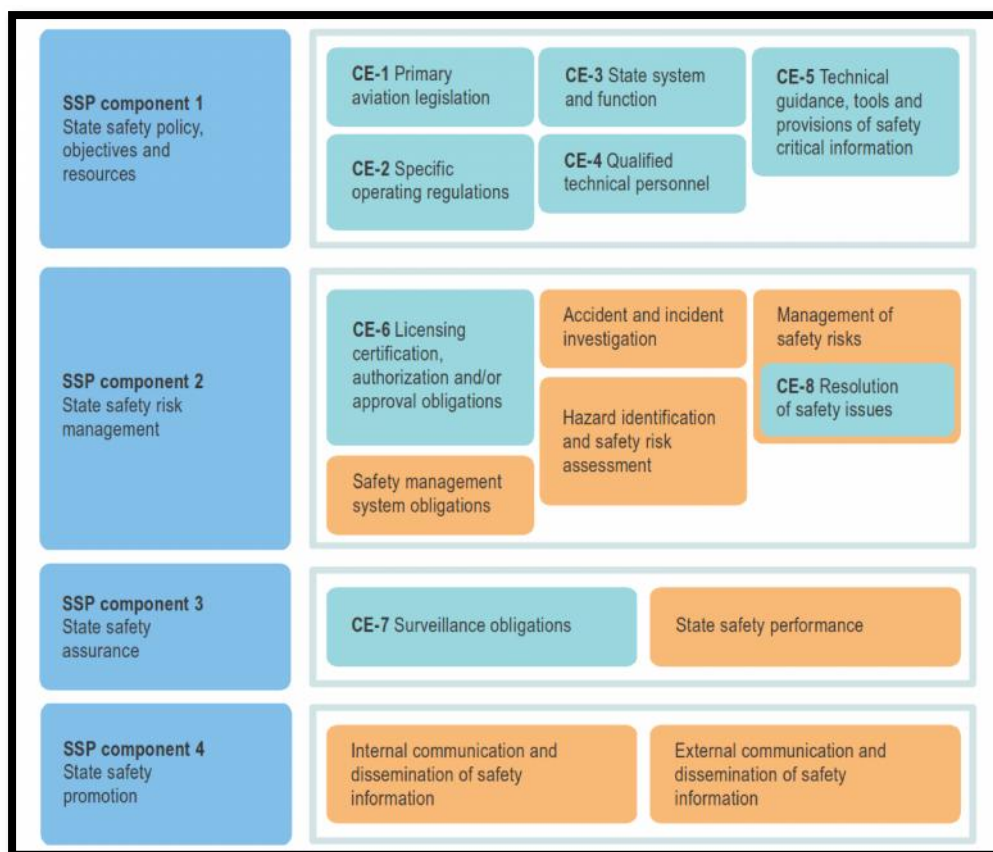


Figure 1 - Integrated State Safety programme (ICAO SMM-4th Edition-2018)

The SSP aims to leverage the collective safety functions and capabilities to further enhance safety within the State. When starting to implement an SSP, most States find they already have existing processes and activities that address many aspects of an SSP. The implementation of an SSP aims to enhance these processes with additional performance and safety risk-based elements, and facilitate the effective implementation of SMS by the aviation industry in the State.

The SSP aims to:

- ensure the State has an effective legislative framework in place with supporting specific operating regulations;
- ensure SRM and safety assurance coordination and synergy among relevant State aviation authorities;
- support effective implementation and appropriate interaction with service providers' SMS;
- facilitate the monitoring and measurement of the safety performance of the State's aviation industry; and

- e) maintain and/or continuously improve the State's overall safety performance.

Once the SSP is implemented, the CAO IRI periodically reassesses the identified safety risks by analysing the safety information generated by the SSP. The analysis will also support the identification of emerging issues. The CAO IRI also periodically reviews the progress towards achieving the safety objectives and their continued relevance, keeping in mind any reassessments of the current risks.

Furthermore, Assembly resolution A39-12 on ICAO global planning for safety and air navigation recognizes the importance of effective implementation of national aviation safety plans. It resolves that States should develop and implement national aviation safety plans, in line with the goals of the Global Aviation Safety Plan (GASP, Doc 10004). At the international level, the GASP sets forth a strategy which supports the prioritization and continuous improvement of aviation safety. Also, regional aviation safety plans should be developed in alignment with the GASP.

Accordingly, each State should produce a national aviation safety plan. If a State already has an SSP in place, the national aviation safety plan may be addressed by Component 1: State safety policy, objectives and resources. So, there was no need to publish a separate NASP in I.R. of Iran.

1 STATE AVIATION SYSTEM DESCRIPTION

1.1 Summary of State aviation industry

In 1917 toward the end of World War I, the first airplane landed on the site of the present Foreign Ministry and the Constabulary of I.R. of Iran. Following the interest of different countries toward the use of this technology, the Iranian government assigned the exclusive right of aviation in Iran to a German aviation company called Yunker in February 1926. The said Company opened its branch in Iran and established air routes to Mashhad, Shiraz, and Bandar Anzali and Bushehr cities by importing a number of Yunker airplanes and undertook the transportation of mail and passenger.

In 1938, a pilot club was established with a number of 20 airplanes. In August 1946, the government established a department called the General Department of Civil Aviation. One year later, the premises of this department was moved to Mehrabad Airport. In July 1949, the Civil Aviation Law was ratified by the Parliament and the General Department of Civil Aviation came under control of the Ministry of Roads.

In 1974, the said department was renamed "Civil Aviation Organization" and according to the Civil Aviation Act of I.R. of Iran, the CAO IRI, as

representative of the Government of I.R Iran, is responsible for civil aviation in I.R. Iran and for upholding the compliance with the Chicago Convention, and thus the CAO IRI establishes the overall aviation policy for civil aviation in the country. According to the Civil Aviation Act, CAO IRI is responsible for any kind of oversight to achieve aviation safety.

Furthermore, the Airports & Air Navigation service providing part was separated from CAO IRI in 1991. The IAC is one of the main state level service providers under supervision of the Ministry of Roads & Urban Development. Its statute was modified by the cabinet and was organized to continue its activities in the framework of a Holding Company. It includes:

- 114 ATS Routes with the total length of 75000 KM in Iranian Air Space
- equipped Area Control Centre (Tehran ACC),
- 25 Remote communications Air Ground Stations connected to Tehran ACC,
- 54 Operational Airports including: 20 Domestic Airports 25 Custom Airports and 7 International Airports using about 16 million square meters of passenger terminals, runways and manoeuvring areas, airports buildings and about 9 million square meters of access roads, green areas, parking lots and other spaces.
- 103 NDB/ VOR/DVOR, 81 DME, 23 ILS and 22 PSR and MSSR and Communication, control screening and inspection equipment and 370 x-ray facilities, 362 Gateway facilities, 690 metal detector tools and firefighting and rescue vehicles together with experts and experienced human resources constitute the infrastructure of Iran Airports & Air Navigation Company.

On 24 February 1962, Iran Air (also known as HOMA) was founded by merging two private companies named Iranian Airways and Persian air services which were established in 1942 and 1955. Iran Air is the flag carrier of Iran which nationalized as Iran Air, branded as the Airline of the Islamic Republic of Iran, became a full member of the International Air Transport Association (IATA) in 1964. Additionally, Iran Air was the launch customer for the Boeing 747SP.

In 2010, CAO IRI achieved 91% Effective Implementation score in the ICAO's Universal Safety Oversight Audit Programme. Accordingly, CAO IRI already achieved the near-term GASP objective - Implementation of effective safety oversight systems – by the score higher than 60% (the global average). So I.R. of Iran commenced the SSP implementation from 2013.

1.2 Statistics of Civil Aviation Industry

In 2019, Civil Aviation industry of I.R. of Iran was associated with parties below:

Table 1- Statistics of Civil Aviation Industry

Area	Number
AOC Holders	26
ATOs (Flight & Technical)	48
Active DOA Holders	15
Active POA Holders	13
AMOs	58
CAMOs	35
Large Active Aircraft	147
Light Active Aircraft	75
Licence Holders	≈21 000
International Airports	8
Secondary International Airports	31
Domestic Airports	29
Registered Heliports	42
Daily Over Flights	≈1200
Departures	≈245 000
Commercial Passengers	≈ 33 000 000
Freight (KG) in Departures	≈ 300 000 000

2 SAFETY POLICY AND OBJECTIVES

The first SSP component defines how a State will manage safety throughout its aviation system. It includes determining the requirements, obligations, functions and activities of the State aviation authority related to the SSP, as well as the broad safety objectives to be achieved.

2.1 State Safety Legislative Framework

The State's legal framework dictates how aviation safety will be managed including both reactive and proactive strategies.

The primary Law in Iran is the Constitution of Islamic Republic of Iran containing 177 articles. Article 6 of the Constitution mandates popular elections for the presidency and the parliament. No law can be passed which conflicts with the Constitution. The parliament has the power to ratify laws and the primary legislation made by parliament is referred to as 'act'. The civil aviation by-laws and ratifications made by the Board of Ministers referred to as ICAR and the CAO IRI may ratify Specific operating regulations, requirements, etc. referred to as ICAS, CAO IRI Parts or CADs.

The civil aviation legislative framework comprises three levels of regulatory documents which are ratified by three levels of regulatory bodies as shown in figure 2:

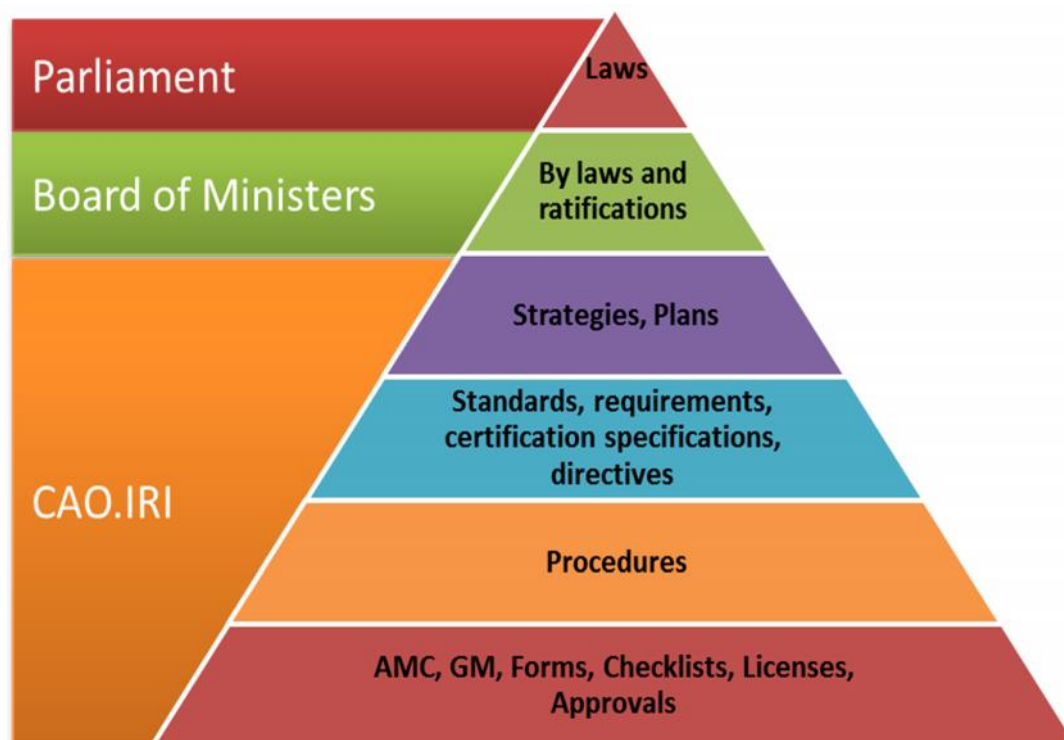


Figure 2 - Civil Aviation Legislative Framework

2.1.1 Primary aviation legislation

2.1.1.1 Civil Aviation Act

Iran parliament ratified the Convention on International Civil Aviation (the Chicago Convention) on July 18, 1949 and the civil aviation act on 20 July 1949. The Civil Aviation Act along with its amendment on 14 April 1967 is the basic civil aviation legislation in Islamic Republic of Iran. The Civil Aviation Act has a total of 35 articles. Article 5 of the Act stipulates the establishment of an independent organization called Civil Aviation Organization, affiliated to the MRUD which is headed by a president who is vice Minister of Roads and Urban Development. The Civil Aviation Act provides for the establishment, funding and governance of Civil Aviation Authority and empowers the CAO IRI to issue technical requirements, exercise safety management, regulatory oversight and enforcement over all civil aviation system in I.R. of Iran.

The Act, its amendment and the laws of authorization for joining the conventions such as the Warsaw Convention, Tokyo Convention and Montreal Convention, are accessible through 'rules and regulations system' in the CAO IRI's portal, <https://www.cao.ir/web/english/rules-and-regulation>, as well as in the <http://rc.majlis.ir/fa/law> for the parliament laws such as the civil aviation act.

2.1.1.2 Iran Civil Aviation Regulations (ICARs)

The list of by-laws and ratifications made by the Board of Ministers referred to as ICAR includes, but not limited to:

Table 2 - List of ICARs

Personnel Licensing	
ICAR 101	Personnel licencing
Aeronautical Telecommunications	
ICAR 110	Aeronautical Telecommunications
Accident Investigation	
ICAR 113/01	Civil Aviation Accident and Incident Investigation
ICAR 113/02	Amendment to Civil Aviation Accident and Incident Investigation
Aerodromes	
ICAR 114	Construction, development, operation and management of civilian airports
Air Navigation	
ICAR112	Search & Rescue
Operations	
ICAR 206	Private Aircraft operations
ICAR 306	State-Owned Airplanes and Helicopters
ICAR 406	Ultralight Aircraft
Management	
ICAR 100	CAO IRI High Council
ICAR 200	Supervision of foreign trips of executive agencies
ICAR 300	CAO IRI as the representative of the State
Airworthiness	
ICAR 107	Registration Rule
Economics and Business	
ICAR 140	Regulations on overseeing the establishment and operation of offices of travel services and tourism

ICARs are accessible through the 'rules and regulations system' in the CAO IRI's portal: <https://www.cao.ir/web/english/rules-and-regulation>.

2.1.2 Specific operating regulations

The Civil Aviation Act empowers the CAO IRI to develop and issue various operating regulations (also known as Technical Requirements). Specific operating regulations contain more detailed requirements that are mandatory to facilitate alignment and compliance with the Annexes to the Chicago Convention by providing either prescriptive or performance-based regulations.

At the moment, the CAO IRI's specific operating regulations are **adapted** from the structure of EASA regulations while considering the needs and capabilities of the aviation industry of Iran. There is the

possibility of making changes and revisions to the content and structure of these adapted regulations by CAO IRI.

The Specific operating regulations of CAO IRI are shown in Figure 2-2 which include, but not limited to:

- **Initial Airworthiness requirements:** Laying down requirements for the airworthiness and environment certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organizations
- **Continuing Airworthiness requirements:** Laying down requirements for the continuing airworthiness of aircraft and aeronautical products, parts and appliances, as well as for the approval of organizations and personnel involved;
- **Air Crew requirements:** Laying down technical requirements and administrative procedures related to civil aviation air crew pursuant to the civil aviation act of I.R. of Iran;
- **Air Operations requirements:** Laying down technical requirements and administrative procedures related to air operations pursuant to the civil aviation act of I.R. of Iran;
- **Air Navigation Services requirements:** Laying down common requirements for the provision of air navigation services; **and**
- **Aerodromes requirements:** Laying down requirements and administrative procedures related to aerodromes pursuant to the civil aviation act of I.R. of Iran.

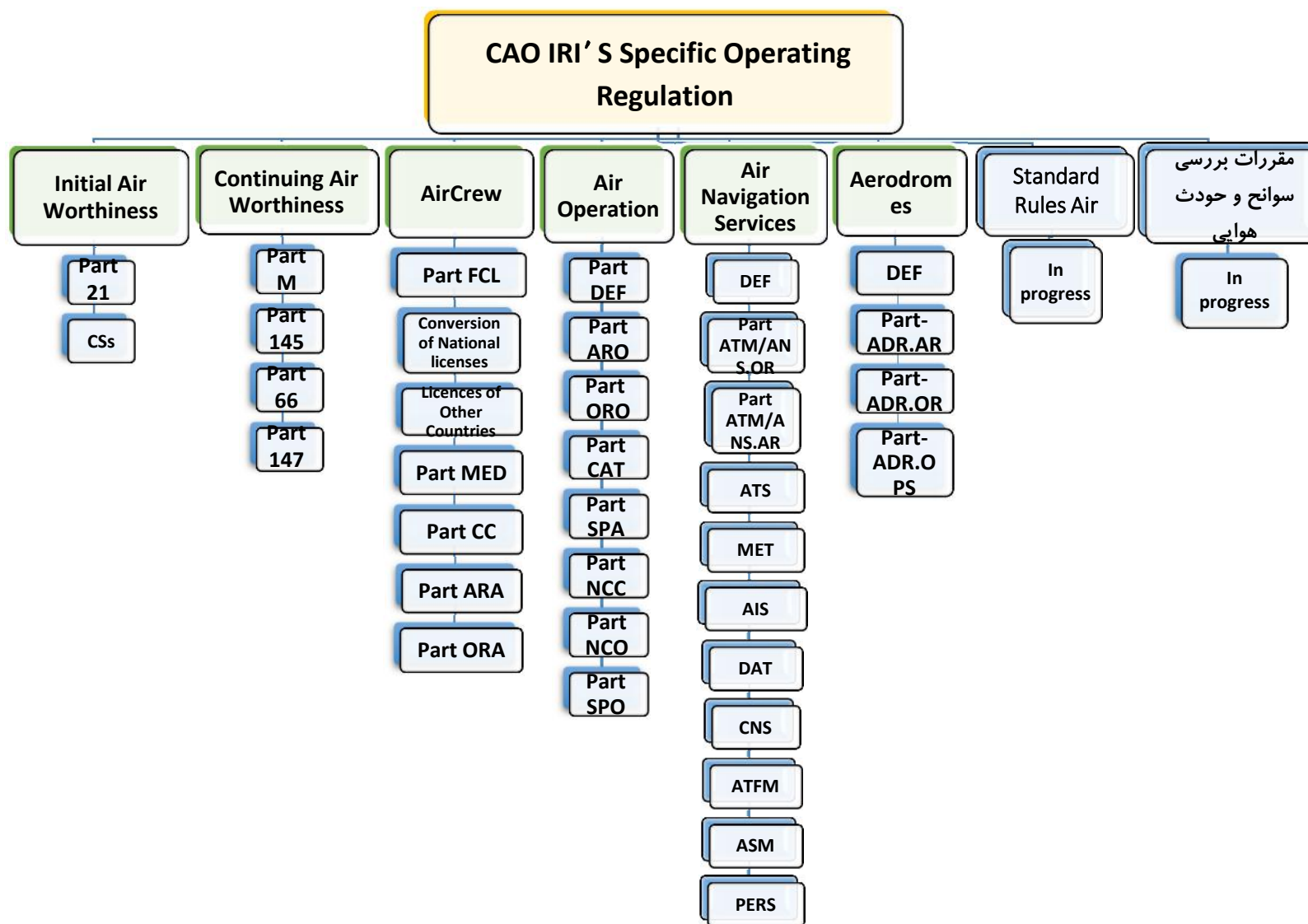


Figure 3 - Specific Operating Regulations

The latest version of the Specific Operating Regulations such as CAO IRI parts and CADs are accessible free of charge through 'rules and regulations system' in the CAO IRI's portal, <https://www.cao.ir/web/english/rules-and-regulation>.

2.1.3 Guidance material for the aviation industry

GM provides detailed information on topics such as the policies and regulations issued by CAO IRI, safety recommendations, guidelines for regulatory processes and administrative instructions. Where appropriate, AMCs are also provided to illustrate means for establishing compliance with the Specific Operating Regulations.

Whereas the AMC/GM of any requirement is not published by CAO IRI, usually those contained in the adapted version of EASA part, which are referred in the CAO IRI's requirements, could be applied as

appropriate. CAO IRI may also accept alternative means of compliances, if they can adequately meet the intent of the regulatory requirements based on the safety risk assessment process.

Policies, procedures, AMC and GM are put in place by CAO IRI to build consistency in our approach towards regulating civil aviation. They also aim to provide guidelines on internal administration such as qualification of technical personnel, staff training, personal conduct as well as internal processes that support safety management activities, such as rulemaking, conduct of surveillance activities and resolution of safety concerns.

The primary means of promulgating regulations and the associated AMC or GM to the industry is the CAO IRI's portal at <https://www.cao.ir/web/english/rules>. Moreover, other communication means, such as seminars, workshops, presentations or reports and recommendations are used to address special guidance relating to industry groups or regulated entities.

2.1.4 Enforcement Policy

In the exercise of safety regulatory oversight over civil aviation operations in Iran and the operation of Iranian aircraft outside the state, CAO IRI has broad authority under the Articles 18, 23 to 28 of the Civil Aviation Act, for monitoring and enforcement in the interests of civil aviation safety. The primary aims of the CAO IRI's enforcement policy are to promote compliance with the aviation safety legislation and requirements, as well as deter violations and repeated errors.

CAO IRI maintains an impartial and just culture in its enforcement policy. Enforcement actions are applied in consistent and impartial manners, taking into consideration equity for the stakeholders. A necessary distinction is made between inadvertent errors from gross negligence, wilful misconduct, sabotage, criminal actions or deliberated violations.

During regular audits and ad-hoc investigations, CAO IRI inspectors review corrective action processes within the service provider's approved SMS or QMS. These corrective action processes aim to resolve minor non-compliances or incidents and they may be allowed to resolve safety issues internally, within the context of SMS or QMS.

The enforcement actions are commensurate with the severity of the violation and the level of risk posed to safety, as well as the culpability of the offender. Considerations are given to circumstances such as whether the violation was inadvertent or deliberate, the attitude and violation history of the offender, and whether the violation was reported voluntarily.

CAO IRI has a range of enforcement options available in the civil aviation act articles 18 and 23 to 28, which include:

- Criminal prosecution – imprisonment and/ or fine on conviction of offences;
- Administrative actions to suspend, revoke, limit, disqualify or impose conditions on Aviation Safety Instrument;
- Financial penalty; and
- Warnings.

Together with the implementations of SMS and SSP, the enforcement policy in CAO IRI seeks to assure effective safety reporting by service providers and individuals, whilst ensuring that enforcement and penalty actions are taken where appropriate.

The statement of enforcement policy is signed by the president of CAO IRI and is published in the 'policy' tab of the CAO IRI's website, and the procedure is published in the CAO IRI **CAD 4700** which is accessible at <https://www.cao.ir/web/english/rules-and-regulation> and attached in the Appendix B of the SSP.

2.1.5 Protection of safety data, safety information and related sources

The objective of protecting safety data, safety information and their related sources is to ensure their continued availability, with a view to using them for maintaining or improving aviation safety, while encouraging individuals and organizations to report safety data and safety information.

Safety data or safety information collected or extracted from safety reporting systems, as well as the sources of such data and information including both individuals and organizations are protected according to the article 16 of CAO IRI SRR.

Furthermore, in the Safety Policy, the CAO IRI's president and employees are committed to protecting the safety data, information and related sources.

The mandatory or voluntary safety reporting methods are reflected in the safety reporting regulation, while the most appropriate method for the service providers is using CAO IRI's ECCAIRS at <http://eccairs.cao.ir> and Offline Safety Reporting System for individuals, using internal reporting systems of employers is recommended. If necessary, individuals can submit the voluntary or confidential safety reporting at <https://www.cao.ir/report> to the CAO IRI.

The guidelines and procedures on the implementation of this regulation provided by CAO IRI, service providers, legislators, lawyers, prosecutors, judicial officers and other competent authorities with responsibility for making decisions about the use and protection of safety data, safety information and their related sources are published in the 'rules and regulations system' in the CAO IRI's portal: <https://www.cao.ir/web/english/rules-and-regulation> and in the Safety Reporting regulation.

2.1.6 Periodic review

The CAO IRI CAD 4000 is published to control the legislation, specific operating regulations, implementation policies, GM, AMC and procedures. Under article 38 of Chicago Convention and according to the process of Identifying and notifying the differences between national Regulations and ICAO Standards (CAO.IR CAD 4500), ongoing changes to ICAO standards and recommended practices are assessed and reviewed, and if proved to have been effective in the existing legislative framework and in implementing procedures and guidance materials, the relevant revisions will be made.. The on-going status of Iran's compliance and differences with ICAO SARPS and related ICAO protocols is regularly updated on the ICAO Continuous Monitoring Approach Online Framework (<https://soa.icao.int/usoap/index.aspx>).

The rulemaking committee monitors the process in conjunction with the Safety and Quality Assurance Department in CAO IRI to ensure they are kept up-to-date with international standards and amendments to ICAO SARPs, while at the same time, remain relevant and appropriate to I.R. of Iran's aviation system.

Accordingly, the content of the SSP is internally reviewed every year, and it will be revised. This periodic review is carried out to ensure the effectiveness and continuous improvement of the SSP and the associated documents, as well as alignment with evolving international practices and consistency with ICAO SARPs, found primarily in the following ICAO publications:

- ICAO Annex 19 – Safety Management
- Safety Management Manual (ICAO Doc 9859)
- Safety Oversight Manual (ICAO Doc 9734, Part A)
- Global Aviation Safety Plan (ICAO Doc 100040)

2.1.7 SSP documentation and records

The SSP of I.R. of Iran is documented according to the validated sample structure recommended by the ICAO SMI website including Cross references to the supporting documentation.

The means of SSP documentation and associated documents dissemination is a free system at the CAO IRI's website through the 'rules and regulations system', <https://www.cao.ir/web/english/rules-and-regulation>. Accessing some of the associated documents with intra-organizational use requires login into the portal, which is only used by the CAO IRI's employees.

Changes to this document will be achieved by a reissue or revision as mentioned in the CAO IRI CAD 4000, document issuance and control procedure. Accordingly, CAO IRI ensures appropriate storage, archiving, protection and retrieval of all documents relating to the SSP activities.

2.2 State System and Functions

The Ministry of Roads and Urban Development is the parent ministry of the CAO IRI. The functions and duties of the MRUD are accessible at <https://mrud.ir/en/Objectives-and-Missions>, which include the following:

- 1) to study, formulate and provide coordinated and comprehensive plans in order to determine implementation guidelines in the country's transport sector and implementing those plans;
- 2) to construct, develop, operate and maintain roads, railroads, ports and airports;
- 3) to determine technical, economic and safety regulations and criteria of land, maritime and air transport and to supervise their implementation; and
- 4) to provide bylaws for punishable offenses with the approval of Ministry of Justice and Ministry of Interior and to propose necessary laws for handling violations of transport regulations.

Accordingly, the Minister of MRUD acknowledged the SSP and monitors its implementation. Also, the MRUD's transportation program is considered in the SSP establishment.

As mentioned previously, in compliance with the civil aviation act, article 5, and the ICAR 300, CAO IRI is the only civil aviation authority in I.R. of Iran which is responsible for upholding compliance with the Chicago Convention. The functions and duties of CAO IRI are accessible at <https://www.cao.ir/web/english/duties>, which include the following but not limited to:

- 1) policy making and planning in technical, economic and international commercial domains in air transportation;
- 2) policy making and planning in type and number of navigational and communicational sites at airports, and monitoring performance of airports;
- 3) policy making and planning in educating and training of specialized personnel for all aviation institutions;
- 4) policy making and planning in telecommunications sector, issuing communicational procedures, exchanging messages, and supplying the required equipment at airports;

- 5) establishing flight standards and regulations, monitoring airlines airworthiness and compliance with safety standards, and issuing certificates: and
- 6) investigating aviation incidents and accidents, and applying required legal penalties according to relevant regulations.

The IAC is responsible for the SAR coordination within the I.R. of Iran SAR region. The SAR operation is carried out by the state and military organizations including the CAO IRI according to the ICAR 112.

According to the article 33 of the by-law ratified by the Board of Ministers on 21/08/2011, CAO IRI is responsible for development and maintenance of SSP in the state. According to this article, all sections of the aviation industry shall follow the instructions issued by in the SSP.

The Organisational Structure of CAO IRI is accessible at <https://www.cao.ir/web/english/organization-chart>.

2.2.1 SSP responsibilities and resources

The full implementation of any SSP needs collaboration of all civil aviation sectors. The CAO IRI's president is the Accountable Executive of the SSP. Overall management of the SSP implementation plan is assigned to the Safety and Quality Assurance Department at the CAO IRI.

How States choose to organize their workforce and organizational structure to address the compliance with Annex 19 is a matter for each state to decide. CAO IRI found it beneficial to establish a new office - Safety and Quality Assurance Department - for overall management of the safety management SARPs and to add some responsibilities to those of the existing offices, for example: airworthiness office, flight operations office, air navigation and aerodrome office, etc.

The CAO.IR has multiple sources of funding for its aviation activities. CAO IRI is funded by a State-allocated budget, fees and charges collected from those participating in the aviation system and from those using services within the aviation system. The CAO IRI's planning, organizing and budgeting department review the budget and funding annually to ensure that it continues to have a sufficient revenue stream.

Accordingly, CAO IRI ensures that offices are given sufficient human resources to carry out their tasks based on the CAO IRI CAD 7100 (Staff Methodology) and CAO IRI CAD 7200 (Authorizations).

2.2.1.1 Safety and Quality Assurance Department (SQAD)

As the primary agency representing I.R. of Iran in ICAO, CAO IRI decided to incorporate an integrated QMS and SMS into the structure of CAO IRI, thus strengthening the confidence of the organization in compliance with Chicago convention and internal procedures.

SQAD coordinates the day-to-day management of the various SSP activities and liaise with other departments. In the management of SSP, SQAD conducts regular collation of data for monitoring of aggregate safety performance indicators.

The other SSP responsibilities of the SQAD include the following:

- 1) Development and maintenance of the SSP;
- 2) Coordination of ICAO-related matters, including submission of practical examples and tools to ICAO SMI portal, handling ICAO State Letters related to safety, etc.
- 3) Management of I.R. of Iran's obligations under the ICAO USOAP CMA; SSP implementation and activities;
- 4) Analyzing the safety information from the SDCPS;
- 5) Formulation and review of aviation safety policies;
- 6) Acceptance of the service providers' SPIs and surveillance of the safety objectives and targets achievement by service providers
- 7) ALoSP establishment;
- 8) Acceptance of the service providers' SPTs and surveillance of the safety data collection in service providers;
- 9) Management of the development of regulations, guidance materials and CADs;
- 10) Administration of Confidential & Voluntary Reporting System (CVRS), based on the CAO IRI CAD 6219;
- 11) Administration of Safety Data Collection and Processing System (SDCPS);
- 12) Administration of Mandatory Occurrence Reporting System in ECCAIRS, based on the CAO IRI CAD 6319;
- 13) Sharing of safety information for trend analysis and safety improvement;
- 14) Conducting the internal audits of the CAO IRI.; and

15) Performing other duties.

2.2.1.2 Air Accident Investigation Bureau (AAIB)

The AAIB is responsible for conducting independent investigation processes in accordance with the ICAS 113, which is aligned with Annex 13 to the Convention on International Civil Aviation.

Its mission is to promote aviation safety through the conduct of independent and objective investigations into air accidents and incidents consistent with the Convention on International Civil Aviation. The SSP responsibilities of the AAIB include the following:

- 1) Carry out investigations into any accident or serious incident of registered aircraft (over 2250 kg MTOM) which occurs in I.R. of Iran territory;
- 2) Carry out investigations into any accident or serious incident outside I.R. of Iran that involves Iranian registered aircraft or an aircraft operated by Iranian operator, if the investigation has been delegated to I.R. of Iran, or the occurrence is in a non-contracting state with no intention of carrying out the investigation;
- 3) Carry out investigations into incidents from which air safety lessons may be derived;
- 4) Submission and completion of the accident or serious incident reports into the CAO IRI's ECCAIRS OR OFFLINE SAFETY REPORTING SYSTEM;
- 5) Submission of ADERPs into the ICAO and the related organizations;
- 6) Collaboration in the SAR operations;
- 7) Appropriate sharing of the safety information;
- 8) Handling of the related ICAO State Letters;
- 9) Issuing safety recommendations; and
- 10) Performing other duties.

The latest version of the AAIB responsibilities is accessible through <https://www.cao.ir/aaib>.

2.2.1.3 ANS & Aerodrome Department (AAD)

The SSP responsibilities of the Aeronautical operations Supervisory Department include the following:

- 1) Conducting safety oversight of the aerodrome operator and Air Navigation Service provider
- 2) Ensuring compliance with the ICAO annex 3 by providing the required implementation grounds and coordination with the meteorological service providers;
- 3) Developing safety regulations for aerodrome operations and ATS;
- 4) Sharing of safety information appropriately;
- 5) Sharing the result of safety reporting investigations with the ECCAIRS and CVRS administrators for safety promotion;
- 6) Conducting SMS assessment procedure of aerodrome operators and ANSPs; and
- 7) Performing other duties.

The latest version of the AAD responsibilities is accessible through <https://www.cao.ir/aad>.

2.2.1.4 Airworthiness (AIR) Department

The SSP responsibilities of the AIR department include the following:

- 1) Conducting safety oversight of the AMOs, DOA and POA holders;
- 2) Developing safety regulations for the AMOs, DOA and POA holders;
- 3) Sharing of safety information appropriately;
- 4) Sharing the result of safety reporting investigations with the ECCAIRS and CVRS administrators for safety promotion;
- 5) Conducting SMS assessment procedure in aircraft maintenance service providers; and
- 6) Performing other duties.

The latest version of the AIR responsibilities is accessible at <https://www.cao.ir/air>.

2.2.1.5 Flight Operations (OPS) Department

The SSP responsibilities of flight operations department include the following:

- 1) Conducting safety oversight of the AOC, SPO and Declaration holders;
- 2) Developing safety regulations for air operators and conducting their surveillances;
- 3) Sharing of safety information appropriately;
- 4) Sharing the result of safety reporting investigations with the ECCAIRS and CVRS administrators for safety promotion;
- 5) Conducting SMS assessment procedure of the AOC holders; and
- 6) Performing other duties.

The latest version of the OPS responsibilities is accessible at <https://www.cao.ir/ops>.

2.2.1.6 Personnel Licensing (PEL) Department

The SSP responsibilities of PEL department include the following:

- 1) Regulating and licensing of flight crew, aircraft maintenance engineers and air traffic controllers; and conduct of safety oversight of approved training organisations and flight simulation training devices;
- 2) Sharing of safety information appropriately;
- 3) Sharing the result of safety reporting investigations with the ECCAIRS and CVRS administrators for safety promotion;
- 4) Conducting SMS assessment procedure of ATOs;
- 5) regulating, issuing licences, or approvals, performing safety surveillance activities, safety investigations and undertaking enforcement actions regarding
 - Aircraft Maintenance Engineers

- Air Traffic Controllers
- Authorised Check Controllers/ Authorised Flight Examiners
- Flight Crew
- Flight Simulation Training Devices
- Approved Training Organisations
- Aero-Medical Centres and Aero-Medical Examiners

6) Performing other duties.

The latest version of the PEL department responsibilities is accessible at <https://www.cao.ir/pel>.

2.2.2 SSP coordination committee

The president of CAO IRI is the SSP Accountable Executive (SSP-AE) responsible for coordinating the implementation and maintenance of the SSP across the aviation system. The SSP-AE has control over human and financial resources for the implementation and maintenance of the SSP and over the service provider's certification and safety regulatory oversight activities.

Previously the safety steering committee (SSC) was introduced to coordinate SSP tasks as mentioned in the I.R. of Iran's SSP 1st edition but the name of committee has been changed into the National Aviation Safety Committee as established in this edition of the SSP as well as updating the members and functions of the committee.

The SSP-AE is the chairman of NASC, and the SQAD director of CAO IRI is the secretary of the committee.

2.2.2.1 I.R. of Iran National Aviation Safety Committee (NASC)

I.R. of Iran established a national committee with representation from the impacted aviation authorities and state level stakeholders with responsibilities related to the implementation and maintenance of the SSP, including the civil aviation authority as well as the military aviation authority and the national level service providers.

The committee will facilitate good communication, avoid duplication of effort and conflicting policies and ensure effective and efficient SSP implementation.

The committee is chaired by the President of CAO IRI in his/her capacity as the SSP-AE, and comprise these members:

- 1) President of the CAO IRI (Chairman)
- 2) Chairman of the IAC
- 3) President of the IRIMO
- 4) Bureau of transport safety representative, MRUD
- 5) Vice President for Flight Standards, CAO IRI
- 6) Vice President for Aeronautical and International Affairs, CAO IRI
- 7) Vice President for Management & Resources Development
- 8) Director of the SQAD, CAO IRI (Secretariat of the NASC)
- 9) Director of Air Accident Investigation Bureau (AAIB), CAO IRI
- 10) Association of Iranian Airlines Secretariat
- 11) Representative of inspection/safety Department, I.R. of Iran GSAF
- 12) Director of Safety Department, IHSRC
- 13) Other assigned members by the CAO IRI's president

The Terms of Reference of the NASC are:

- 1) To ensure the implementation and maintenance of the SSP by effective coordination and cooperation;
- 2) To monitor progress in the implementation of the SSP;
- 3) To monitor safety performance against the safety policy and objectives;
- 4) To ensure achievement of the SSP safety objectives;

- 5) To ensure appropriate mitigation strategies are developed and taken;
- 6) To coordinate the mitigation strategies among aviation system;
- 7) To support the achievement of the GASP objectives in I.R. of Iran;
- 8) To review the acceptable level of safety performance under the SSP;
- 9) To review SSP policies and practices;
- 10) To ensure that appropriate resources are allocated by the SSP-AE; and
- 11) To avoid duplication of efforts and conflicting policies.

2.2.3 State Safety Policy Statement

The State Safety Policy Statement encapsulates the commitments of CAO IRI to the industry and to the international community towards achieving the highest practicable level of safety. It also reflects how we will approach the management of safety.

The State safety policy is a formal document describing the State's safety intentions and direction. The safety policy is endorsed by the president of CAO IRI as the AE of the SSP and is attached to the Appendix B of the SSP.

2.2.4 Safety Objectives

The development of safety objectives starts with a clear understanding of the highest safety risks in the aviation system.

Furthermore, the GASP objectives call for States to put in place robust and sustainable safety oversight systems and to progressively evolve them into more sophisticated means of managing safety. These objectives align with ICAO's requirements for the implementation of State safety programmes by States and safety management systems (SMS) by service providers.

State safety objectives are brief, high-level statements that provide direction for all relevant State aviation authorities. They represent the desired safety outcomes that the State aims to achieve. It is also important, when defining the safety objectives, to take into account the State's ability to influence the desired outcomes. The safety objectives represent the current State's priorities for the management of safety and provide a blueprint for allocating and directing the State's resources.

The I.R. of Iran's safety objectives are as follows:

- 1) continued implementation and compliance of the applicable ICAO SARPs at the national level by improving the indicators on the level of compliance with ICAO provisions established in the USOAP CMA. The objective is to improve the indicator of the ICAO standards Effective Implementation (EI) to 90% by the end of 2022.
- 2) Improving the EI index of the OPS safety oversight area to 80% by the end of 2022.

- 3) Improving the level of safety of commercial air transport carriers under supervision of the I.R. of Iran by strengthening the state oversight system. The objective is continued improvement of the five-year average accident rate to the global rate by 2024 then to zero.
- 4) Full implementation of the SSP by the end of 2022 (mid-term GASP objective),
- 5) Building upon safety management practices within the SSP to develop advanced safety oversight system, including predictive risk management by 2028 (long term GASP objective),
- 6) Ensuring Safety Reporting Regulation is implemented within industry as the effective reporting system is essential to the state safety assurance implementation. The objective is to improve the percentage of occurrence analysing reports received from the service providers through the ECCAIRS and Offline Safety Reporting System to 100% by the end of 2020.
- 7) Ensuring full implementation of the service provider's SMS by the end of 2022,
- 8) Adopting the harmonised SMS regulation into the related regulations for all of the service providers by the end of 2020.
- 9) Being an active contributor to improving aviation safety in international level and MID Regional Office. The objective is to improve the Panel Memberships Distribution percentage of I.R. of Iran published in ICAO safety report to 1% by 2022.
- 10) To continuously monitor the achievement of the safety objectives, state-level safety performance indicators have also been determined.

2.3 Qualified Technical Personnel

Guidance on qualified technical personnel performing safety-related functions (CE-4) can be found both in ICAO Doc 9734, Part A. and in Authority Requirements (A/R) are also found in the CAO IRI's specific operating regulations which contain the critical elements of a safety oversight system.

2.3.1 Aviation authority required competencies

The CAO IRI identified and addressed the competencies required for effective implementation of the SSP, taking into accounts the roles and responsibilities under the SSP performed by the personnel in the CAO IRI's CAD 7200 (Authorizations) based on the ICAO Doc 10070 (Competencies of Civil Aviation Safety Inspectors).

The CAO IRI has determined the most appropriate training for personnel with different roles and responsibilities in the SSP, including initial, continuation and on the job trainings. The following are examples of training that are considered:

- 1) briefings or familiarization training for senior management on SSP, SMS, safety policy, safety objectives and ALoSP;
- 2) training for inspectors on the SSP and SMS principles to carry out SMS assessments;
- 3) training for personnel responsible for data analysis, safety objectives, SPIs and SPTs monitoring; and
- 4) soft skills training (effective communication skills, negotiation skills, conflict resolution, etc.) to support inspectors in working collaboratively with service providers to improve safety performance while ensuring continued compliance with the established regulations.

2.3.2 Training needs analysis

The training programme will be tailored to the needs of the individual's role within the SSP or SMS. A training needs analysis (TNA) is necessary to ensure there is a clear understanding of the operation, the safety duties of the personnel and the available training. A typical TNA will normally start by conducting an audience analysis, whose steps are described in the ICAO Doc 9859 4th edition, Chapter 9, for service providers, but can also be used for States to develop inspectors' competencies.

Accordingly, the level and depth of the SMS training in service provider's environment are categorized into 3 levels as defined in the CAO IRI's CAD 1019. So, the managers involved in the organization's safety committees will be trained more extensively than the personnel directly involved with delivery of the organization's product or services. Personnel not directly involved in the operations may require only a high-level overview of the organization's SMS even through an online course.

The main purpose of the safety training programme is to ensure that personnel, at all levels, maintain their competence to fulfil their safety

roles. Therefore, the safety training for the SSP related personnel in I.R. of Iran is divided into 3 categories as below:

- 1) Training of the management personnel
- 2) Training of the SMS inspectors
- 3) Training of the SSP implementation personnel

2.3.3 Training of management personnel

The specific safety training for the Accountable Executive and the NASC members includes the following topics:

- 1) Safety Management Concepts
- 2) Regulatory Framework including the I.R. of Iran's SSP
- 3) SSP foundation and Components
- 4) SMS Components

2.3.4 Training of safety-related personnel

The training program outline for the safety related personnel in CAO IRI is determined in the CAO IRI's training program based on the document prepared by the SM ICG, which includes training outline and required competencies for the field inspectors involved in the service providers' SMS surveillance and for the SSP implementation personnel.

The Training Program Outline for the inspectors SMS Competency consists of five sections in order of progression:

- 1) Safety Management Concepts
- 2) Regulatory Framework
- 3) SSP Components
- 4) SMS Components
- 5) SMS Evaluation

2.4 Technical guidance, tools and provision of safety critical information

Guidance on Technical guidance, tools and the provision of safety-critical information (CE-5) can be found both in Doc 9734, Part A as well as Authority Requirements (A/R) in the CAO IRI's specific operating regulations which contain the critical elements of a safety oversight system.

The CAO IRI has provided guidance to the industry on the service provider's SMS in the CAO IRI CAD 1019 to help with the interpretation of safety management regulations. This will promote a positive safety culture and aid the service providers in meeting their safety objectives, and consequently, the State's safety objectives, which are often achieved through regulation.

Additionally, the CAO IRI's CAD 1319 is established as the inspector's procedure for the initial acceptance and review of the service provider's SMS. The evaluation of SMS includes additional tools to determine both the compliance and performance of the service providers' SMS. The procedure including the tool for determining both compliance and performance will be explained through the last section of the safety training for the field inspectors before being implemented.

Furthermore, the free-of-charge technical guidance, tools and the provisions of safety critical information are accessible at CAO IRI's website (<https://www.cao.ir>) for the assigned groups.

3 STATE SAFETY RISK MANAGEMENT

By releasing the first edition of the SSP in January 2013, I.R. of Iran augments the traditional methods of safety management with proactive and predictive processes through adopting best practices, tools and metrics to further mitigate the potential sources of risk. According to this edition of the SSP, I.R. of Iran improves those processes to achieve the next level of safety addressed by the MRUD's comprehensive transportation program as well as the ICAO GASP considering the best practices, tools and examples validated and disseminated in the ICAO SMI portal.

The State SRM component includes the establishment of SMS requirements. Service providers' SMS shall be acceptable to CAO IRI and will be reviewed to ensure that the service provider's SMS remains effective through the surveillance activities.

CAO IRI has also applied the principles of SRM to their own activities such as the regulatory impact assessment, prioritization of surveillance activities, issuing exemptions, authorization of high risk SPO, introductory flights, Special aero-medical circumstances based on the process mentioned in the CAO IRI CAD 1119 (SRM) which is accessible to the employees at the CAO IRI's website, <https://www.cao.ir>.

3.1 Licensing, certification, authorization and approval obligations

Guidance on licensing, certification, authorization and approval obligations (CE-6) can be found both in ICAO Doc 9734, Part A and in Authority Requirements (A/R) in the CAO IRI's specific operating regulations which contain the critical elements of a safety oversight system.

Licensing, certification, authorization and approval obligations are important components of the State safety risk control strategy. They provide the I.R. of Iran with assurance that service providers and other pertinent industry representative organizations have achieved the required standards to operate safely within the aviation system.

Also, CAO IRI have established common operating regulations in the adopted specific operating regulations to facilitate the acceptance of licences, certificates, authorizations or approvals issued by other States. Such arrangements do not absolve the CAO IRI from its obligations under the Chicago Convention.

ICAO's analysis indicates that implementation of CE-6 is fundamental to the reduction of accident rates.¹ Furthermore, through

¹ ICAO Doc 10004, Global Aviation Safety Plan 2017-2019, 2.2.5 (a)

a root cause analysis, deficiencies in CE-6 can be traced to protocol questions in CE-1 to CE-5, which establish a safety oversight system.

3.2 Safety management system (SMS) obligations

According to ICAO Annex 19, CAO IRI has required that the service providers and international general aviation operators implement SMS.

SMS provisions for IGA are addressed with some flexibility in Annex 19 and are therefore not included in the list of service providers.

3.2.1 SMS requirements for aviation industry

ICAO Annex 19, Appendix II addresses the SMS framework requirements and CAO IRI adapted the requirements into the specific operating regulations.

Table 3 - References for SMS requirements in CAO IRI regulations associated with the AMC/GM for the respective service providers

Service Provider	SMS requirements found under
ATO	CAO IRI Air Crew
Air Operator	CAO IRI Air Operations
AMO	CAO IRI Part 145
DOA/POA holders	CAO IRI Part 21
ATM/ANS provider	CAO IRI ATM/ANS
Aerodrome Operator	CAO IRI ADR

Separately, the SMS requirements applicable to international general aviation operators are established within the existing specific operating regulations in the CAO IRI Air Operations. Likewise, those of the ground handling and airport services providers are established within the CAO IRI CAD 6009.

The SMS regulatory requirements will be periodically reviewed according to the CAO IRI CAD 4000 as mentioned in the SSP chapter 2.1.

Guidance materials are provided to the industry as well as acceptable means of compliance with the SMS requirements through the specific operating regulations. General guidance for the service providers about how to develop and perform an SMS gap analysis and implementation plan can be found in CAO IRI CAD 1019.

3.2.1.1 CAO IRI Air Crew

CAO IRI AIR Crew, part ORA (ORA.GEN.200) includes SMS requirements and the associated AMC/GM for the approved training organizations that are exposed to safety risks during the provision of their services, in accordance with the ICAO Annex 1.

The Regulation also considers Safety management System for AeMC and FSTD qualification certificate holders.

3.2.1.2 CAO IRI Air Operations

CAO IRI Air Operations Regulation, Part ORO (ORO.GEN.200) includes SMS requirements and the associated AMC/GM for the operators of aeroplanes or helicopters authorized to conduct CAT in accordance with Annex 6, Part I or Part III, commercial specialised operations (SPO), as well as operators conducting non-commercial air operations with complex motor-powered aircraft (NCC).

3.2.1.3 CAO IRI Part 145

The harmonized SMS regulatory framework as in other domains will be fully adapted by the end of 2020 into the CAO IRI part 145 (145.A.200) for the approved maintenance organizations providing services to operators of aeroplanes or helicopters engaged in international commercial air transport, in accordance with Annex 6, Part I or Part III, Section II,

3.2.1.4 CAO IRI Part 21

The harmonized SMS regulatory framework as in other domains will be fully adapted by the end of 2020 into the CAO IRI part 21 (21.A.3A, 21.A.139 and 21.A.239) for the approved organizations responsible for the type design or manufacture of aircraft, engines or propellers in accordance with Annex 8.

3.2.1.5 CAO IRI ATM/ANS

CAO IRI ATM/ANS contains SMS requirements for providers of ATS and CNS services to establish and maintain a management system, which is built on the ICAO Annex 19 provisions.

3.2.1.6 CAO IRI Aerodromes

CAO IRI Aerodromes, Part ADR.OR (ADR.OR.D.005) includes SMS requirements and the associated AMC/GM for the approved organizations responsible for the operators of certified aerodromes in accordance with the Annex 14, Volume I and the Annex 19.

3.2.2 SMS acceptance

CAO IRI established the CAD 1319 for the initial acceptance of the service providers' SMS as well as reviewing the SMS through the surveillance activities.

Some of the service providers in I.R. of Iran, in addition to CAO IRI, have certificates, authorizations or approvals from other State(s) or conduct operations in other State(s). Harmonization of the SMS requirements is considered to facilitate acceptance of SMS between I.R. of Iran and other states. The harmonization reduces oversight duplication and eliminates service providers' need to comply with similar SMS obligations through (potentially) dissimilar requirements. By this harmonization, CAO IRI avoids imposing additional undue burden on service providers. The SMS acceptance among CAO IRI and other states will be addressed through bilateral or multilateral agreements and in some cases is mutual.

Early collaboration between the service providers and the CAO IRI will lead to a smoother development and acceptance process. The service providers' SMS within the CAO IRI's responsibility will be made acceptable to the CAO IRI through the SMS Manual acceptance process. Service providers are expected to conduct a gap analysis and develop a workable implementation plan (including acceptance by CAO IRI as a planned task). More information on the SMS manual acceptance process can be found in CAD.IRI CAD 1019.

3.2.3 Acceptance of SPIs and associated targets

Agreement on the service provider's performance indicators is the responsibility of CAO IRI's SQAD.

The service providers' proposed SPIs will be agreed as part of the SMS acceptance process and will be reviewed through the surveillance activities by competent authorized inspectors.

The CAO IRI's SQAD might consider a plan for the agreement on the Service Provider's SPT and the ALoSP, later in the implementation process. This is especially practical for service providers at initial acceptance or certification as they often do not have enough data to develop meaningful targets.

The acceptance of the service provider's SPTs and ALoSP will be addressed after the SPLs have been agreed on and monitored over a period of time. This establishes the baseline performance. It may be based on the SPT or ALoSP established at the State, regional or global level.

The CAO IRI will ensure that the proposed SPLs are appropriate and pertinent to the individual service provider's specific operational context, and they are linked to the safety objectives and applicable State level SPLs.

Guidance on safety performance monitoring and measurement could be found in CAO IRI CAD 1019.

3.3 Accident and Incident Investigation

Functional independence of I.R. of Iran's AAIB from the CAO IRI is planned to be implemented by the MRUD but until such time, an independent accident and incident investigation process is established by AAIB whose sole objective is the prevention of accidents and incidents, and not the apportioning of blame or liability. Also, such independence will enhance the capability of the AAIB.

The AAIB conducts investigations in accordance with the ICAR 113 aligned with Annex 13 to the Convention on International Civil Aviation, which governs how ICAO member States conduct aircraft accident investigations internationally. The AAIB undertakes investigations without fear or favour. Such investigations support the management of aviation safety in I.R. of Iran.

The AAIB's key product is information and knowledge, imparted to individuals, regulators, aviation industry, aviation service providers and/or other concerned entities to assist in ensuring that unsafe actions or conditions are not repeated or allowed to persist. The emphasis of the AAIB's investigations is placed on accident prevention and not on assigning the blame.

The AIB conducts Annex 13 investigations; however, this does not preclude other organisations from conducting their own investigations. There are many safety occurrences that do not require an official investigation in accordance with Annex 13. These occurrences and identified hazards may be indicative of systemic problems. These problems can be revealed and remedied by a safety investigation team led by the service provider or other CAO IRI departments.

While AIB is the primary investigation board, especially for accidents and serious incidents, CAO IRI's departments may also conduct investigations of safety occurrences to the extent of CAO IRI's powers under the civil aviation act and ICAR 113. Such investigations continue independently in parallel with AIB's investigations as much as possible, with priority of evidence given to AIB. The investigations which are conducted by departments other than AIB aim to expeditiously determine safety gaps to prevent recurrence, assess breaches of regulations and guidance material and discover lessons to improve safety regulations and safety oversight processes as well as consider enforcement actions.

AIB's investigation reports including safety recommendations are disseminated at <https://www.cao.ir/web/english/investigation-reports>.

3.4 Hazard identification and safety risk assessment

One of the most important roles of CAO IRI is to identify hazards and emerging trends across the aviation system. This is often achieved by analysing safety data aggregated from multiple sources.

The concept of hazard reporting and management is especially important in SMS. Unlike incident reporting which is done after a safety occurrence or event, hazard reporting is more proactive, in that it identifies conditions or objects with the potential to cause or contribute to an incident/ accident. Accordingly, state level SPIs includes leading indicators to monitor events before leading to an incident or accident such as non-compliance rate in service providers or ramp inspection findings which define the unsafe acts.

CAO IRI's hazard identification and safety risk assessment process is established in the CAO IRI CAD 1119 (safety risk management) based on the size, maturity, and complexity of the aviation system in I.R. of

Iran and is accessible through CAO IRI's portal, <https://www.cao.ir/web/english/rules-and-regulation>.

3.5 Management of safety risks

Guidance on resolution of safety issues (CE-8) can be found both in ICAO Doc 9734, Part A and in Authority Requirements (A/R) in the CAO IRI's specific operating regulations which contain the critical elements of a safety oversight system.

The objective of the safety risks management is to ensure safety risks are controlled and an ALoSP is achieved. CAO IRI develops, documents, and recommends appropriate safety risk mitigation or control strategies. Examples include: direct intervention with a service provider; implementing additional policies or regulations; issuing operational directives or influencing through safety promotional activities.

An evaluation of each proposed safety risk control will be performed as the next step. Once safety risk controls have been selected and implemented, they will be monitored and validated to ensure the intended goals have been achieved.

Many of the safety risk controls require action by service provider(s). CAO IRI will direct the service provider(s) to accomplish effective implementation.

The CAO IRI's SRM procedure including mitigation of safety risk process is established in the CAO IRI CAD 1119 and is accessible through CAO IRI's portal, <https://www.cao.ir/web/english/rules-and-regulation>.

4 STATE SAFETY ASSURANCE

State safety assurance activities aim to assure that the functions are achieving the intended safety objectives and targets. Service providers are required to implement a safety assurance process as part of their SMS which has different elements.

The CAO IRI's safety assurance activities, as part of the SSP, provide assurance that the system is being practiced as designed, and the regulatory controls are having the intended effect on SRM via the collective efforts of the aviation industry.

Safety assurance is a shared responsibility between regulators and service providers. Service providers are responsible for maintaining safety in their day-to-day operations, while the CAO IRI maintains quality assurance of the broader aviation safety system. The CAO IRI's responsibilities cover safety oversight and the establishment of an effective safety data collection, analysis and exchange processes.

I.R. of Iran is committed to fulfilling its ICAO USOAP CMA obligations. Furthermore, SQAD conducts regular internal audits by either an appropriately trained internal audit team or a team of external consultants.

4.1 Surveillance obligations

Guidance on Surveillance obligations (CE-7) can be found both in Doc 9734 Part A and in Authority Requirements of the specific operating regulations.

4.1.1 Service provider monitoring and surveillance

The safety oversight of the I.R. of Iran's civil aviation system is the responsibility of the CAO IRI. The CAO IRI has established surveillance mechanisms to ensure compliance with relevant regulations by service providers and with assessment of the effectiveness of the service provider's SMS. The principles of performance-based surveillance is considered to improve these surveillance activities.

Authority Requirements (A/R) in the CAO IRI's specific operating regulations contain the surveillance requirements with associated guidance materials and AMCs. Additionally, the CAO IRI CAD 4200

(Safety Oversight) and CAO IRI CAD 1319 is established to ensure the effective implementation of safety surveillance obligations.

4.1.2 Risk-based surveillance

A safety risk-based surveillance (SRBS) approach enables prioritization and allocation of the CAO IRI's safety management and surveillance resources commensurate with the safety risk profile of each sector or individual service provider.

CAO IRI gains experience and familiarity with each service provider by monitoring the steadily developing maturity of their safety assurance process, and in particular, their management of safety performance. Over time, the CAO IRI will accumulate a clear picture of the service provider's safety abilities, particularly their management of safety risk. The CAO IRI may choose to amend the scope and/or frequency of surveillance as their confidence and evidence of the service provider's safety capability develops.

The SRBS is associated with the analysis of relevant internal and external safety or quality data. The foundation of effective SRBS is enough, reliable and meaningful data. Without reliable and meaningful data, it is difficult to defend adjustments to the surveillance scope or frequency.

For the time being, the CAO IRI has decided to commence SRBS with CAT AOC holder's surveillance program benefiting the Risk Based Surveillance application (Data-driven inspection schedules for operations) on the ICAO iSTAR 2.0 SPACE, <https://portal.icao.int/space/Pages/Risk-Based-surveillance.aspx> (log in required).

The SRBS facilitates safety risk ranking among service providers within a specific aviation sector or across sectors, and prioritizes inspections, audits and surveillance resources towards those areas of greater safety concern or need.

The process of SRBS is established in CAO IRI CAD 1919 and is accessible to the inspectors through the 'rules and regulations system' in the CAO IRI's portal, <https://www.cao.ir/web/english/rules-and-regulation>. Figure 4 illustrates the concept used in the CAO IRI CAD

1919 based on the 4th edition of the ICAO safety management manual.

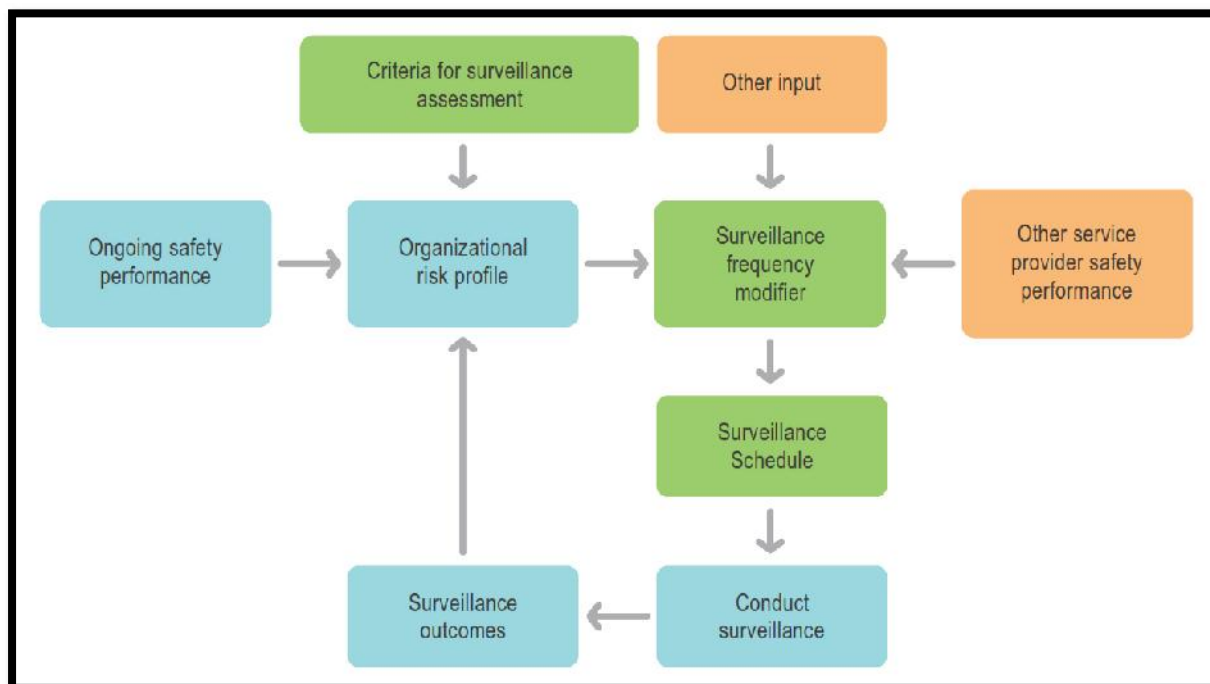


Figure 4 - Safety risk-based surveillance concept (ICAO SMM-4th Edition-2018)

4.1.3 Periodic review of the service provider's safety performance

The CAO IRI periodically reviews each service provider's SPIs and SPTs. The review takes into consideration the performance and effectiveness of each SPI and SPT. The review may show the need to make adjustments to support the continuous safety improvement.

The SMS inspection procedure is established in the CAO IRI's CAD 1319 which includes the initial acceptance and review of individual service providers' SMS, review of their safety performance indicators and their relevant target levels, review of their hazard identification and safety risk assessment processes, etc. to ensure the effectiveness of the service provider's SMS as well as remaining acceptable to the CAO IRI.

4.2 State safety performance

Periodic review and monitoring of the SSP safety performance are carried out at the respective regulatory division levels, and at NASC meetings. If any abnormal or unacceptable performance trend is detected, appropriate intervention actions will be initiated

4.2.1 State safety performance indicators

CAO IRI defined state level SPIs includes both lagging and leading indicators to be reflected in the service provider's SPI appropriately.

The current list of aggregate SPIs (Tier 1 and Tier 2) is provided in the CAO IRI CAD 1019. This list has been compiled from analysis of accidents, serious incidents and incidents in I.R. of Iran as well as from best practices using validated examples shared in the ICAO SMI portal and adapted to the ECCAIRS taxonomy and linked to the safety objectives.

4.2.2 Acceptable level of safety performance (ALoSP)

The CAO IRI's SQAD has considered a schedule for the agreement on the individual Service Provider's SPT and the ALoSP in the implementation process. This is especially practical for service providers at initial acceptance or certification as they often do not have enough data to develop meaningful targets.

Currently the overall acceptable level of safety performance (ALoSP) to be achieved will be agreed after agreement on the service provider's SPIs and SPT's. Each service provider shall present a safety performance monitoring and measurement report to propose the ALoSP.

ALoSP is the level of safety performance agreed by State authorities to be achieved for the civil aviation system in a State, expressed in terms of safety performance targets and safety performance indicators.

It should be noted that ALoSP will be defined having regard for higher-level strategic guidance (from the GASP, Regional Plans, Ministry programs etc.) and the safety objectives established in the chapter 2.2 of this SSP. The figure 5 illustrates the concept used in the CAO IRI CAD 1019.

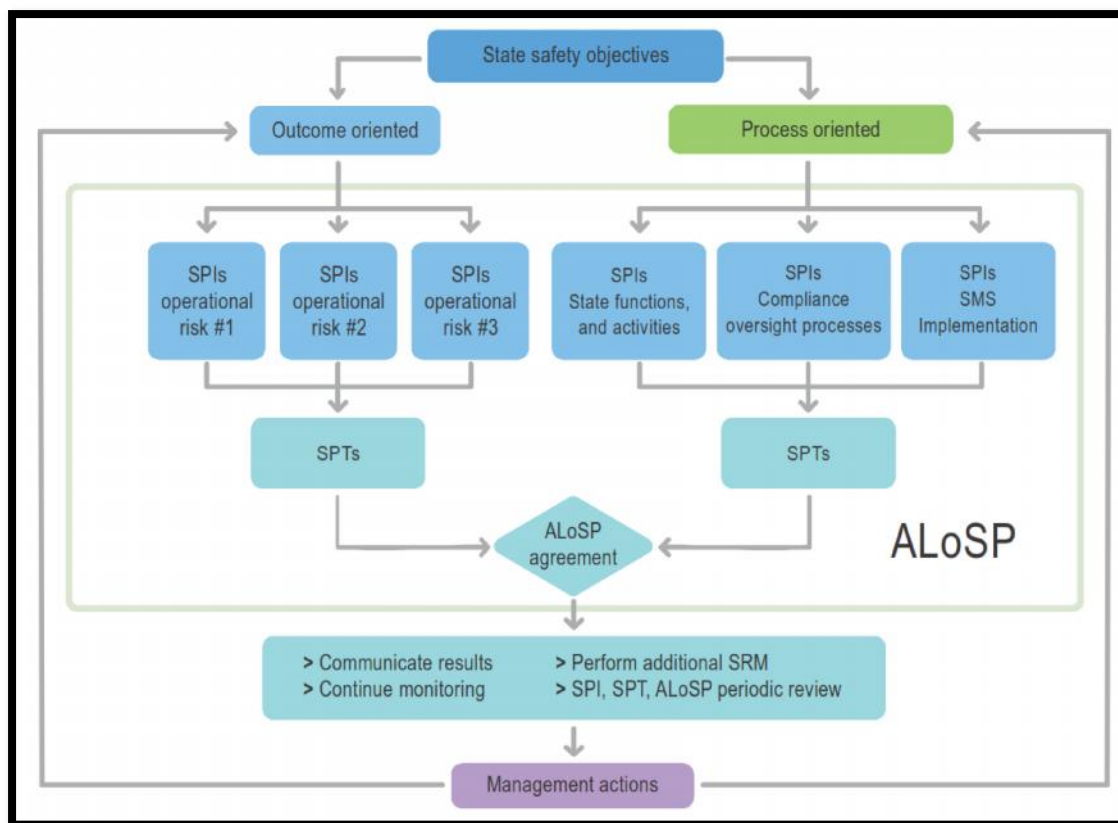


Figure 5. the ALoSP concept associated with safety objectives, SPIs and SPTs (ICAO SMM 4th Edition)

4.2.3 Internal periodic SSP review

The periodic review mechanism is established in the CAO IRI CAD 1819 (SSP Assessment) to ensure the continuing improvement and effectiveness of the SSP. This mechanism supports the update and refinement of the safety objectives and consequently the ALoSP, SPIs and SPTs.

The internal periodic review mechanism is based on the SSP gap analysis with PSOE methodology. The SQAD is responsible for ongoing review of the SSP's effectiveness.

Also, CAO IRI uses the Gap Analysis tool established in the ICAO iSATAR 2.0 SPACE, <https://portal.icao.int/space/Pages/SSP-Gap-Analysis.aspx> to facilitate the mechanism. This SSP document will be amended as necessary to reflect any changes as a result of this review mechanism.

4.2.4 External SSP maturity assessment

As with any major project implementation exercise, SSP implementation involves many tasks and subtasks to be completed

within a set timeframe by 2022, then maintaining the program toward excellence.

The assessment of the SSP's maturity is conducted by CAO IRI using a tool that reflects ICAO SARPs and guidance material, recommended practices and CAO IRI CAD 1819 used by CAO IRI to perform internal audits for the continuous improvement of the SSP and may be used by external auditors. Furthermore, the SSP related protocol questions are added to the ICAO USOAP CMA PQs to assess the SSP maturity.

The SSP will be assessed at various stages, looking initially for the presence and suitability of key elements. At a later stage, the SSP will be assessed to understand how well it is operating and how effective it is at achieving the objectives.

Figure 6 illustrates the on-going assessment of the maturity of an SSP.

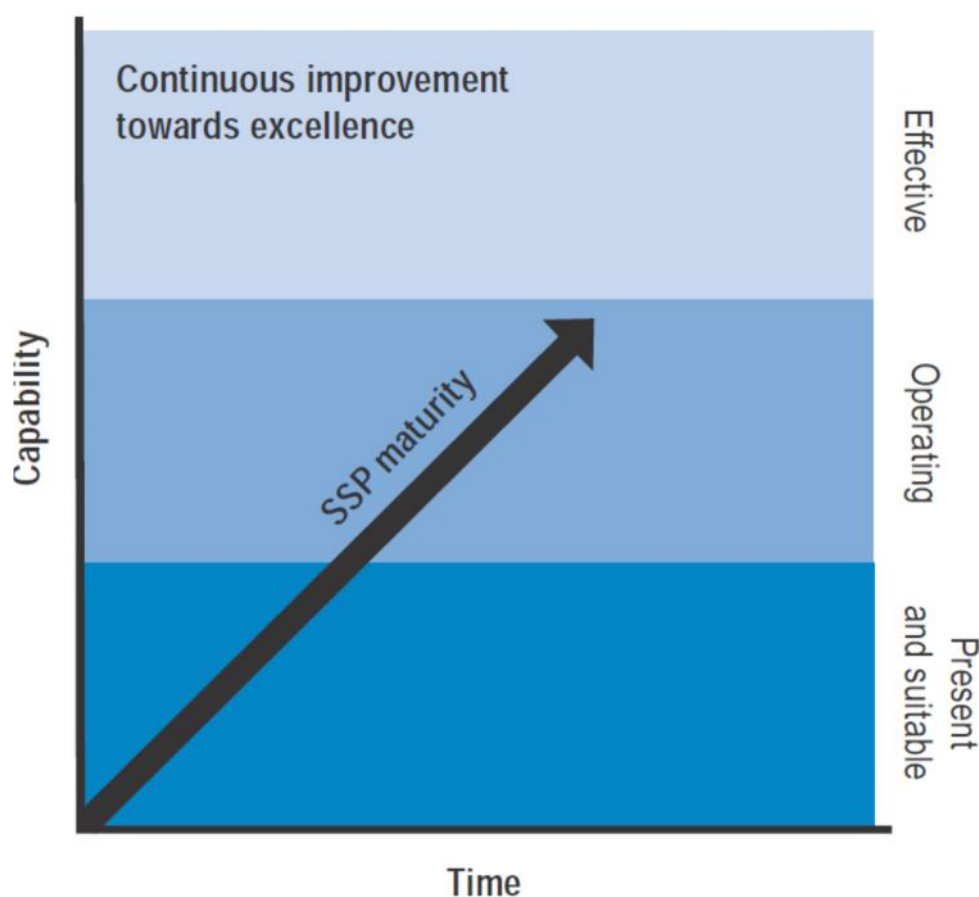


Figure 6 - SSP Maturity

5 STATE SAFETY PROMOTION

The improvement of safety performance within aviation system is highly dependent on the safety culture. Actions related to the management of safety tend to be more effective when the system has a positive safety culture. When visibly supported by upper- and middle management, frontline employees tend to feel a sense of shared responsibility towards achieving their safety objectives.

Safety promotion encompasses two distinct but complementary areas, internal and external promotion. Internally, CAO IRI institutionalises training frameworks and promotes sharing and retention of institutional and current knowledge to strengthen technical competencies of staff.

Externally, CAO IRI carries out a series of activities to communicate safety information and encourage dialogue with the aviation industry and the public to improve the safety culture positively.

5.1 Internal Training, Communication & Dissemination of Safety Information

As mentioned in chapter 2.3 of the SSP, training will be provided for senior managers, SSP implementation personnel and inspectors to maintain and improve defined competencies in the CAO IRI CAD 7200. CAO IRI provides training, awareness, and two-way communication of safety relevant information to improve the positive organizational culture that fosters effective and efficient SSP implementation and operation.

5.1.1 Internal Training

Officers in CAO IRI are provided with various training, ranging from generic 'soft-skill' training to technical training related to aviation safety including OJT and recurrent training.

The CAO IRI's training programmes are fully documented and controlled in the CAO IRI policies and procedures management system according to the CAO IRI CAD 7200.

Internal training may be provided by the subject matter experts in CAO IRI and is usually conducted at the CATC, which is the training arm of CAO IRI. For topics which are not available or updated at CAO IRI, training would be sourced from selected training organisations, authorities or manufacturers. The internal SSP/SMS training outlines and objectives are established in the CAO IRI training program.

In all cases a certificate of completion or record of attendance for individual training courses are provided to the attendee and record is filed in the person's training record repository.

5.1.2 Internal Communication & Dissemination

Safety promotion actions and publications also improve coordination and collaboration in CAO IRI as the only authority involved in safety oversight within I.R. of Iran. Furthermore, the SSP document and its associated documents are fundamental to achieving the integration of training, communication and the dissemination of the related information.

Internally, CAO IRI communicates information either through personal interaction or electronic means. CAO IRI has an internal document management system, hosted on the intranet, for the retention and dissemination of documents, including ICAO State Letters, legislation, regulations, procedures, meeting notes, publicly available newsletters and other relevant information. This system is accessible by the relevant personnel and the members of the SSP Coordination Committee.

When assessing types of media to convey a particular message, CAO IRI assesses which one is more appropriate to each message and its targeted audience. SSP documents may be posted on the website that is readily available to personnel when they are needed. Other information such as lessons learned and best practices may be more suitable for a periodic bulletin or report. CAO IRI communicates and disseminates safety-relevant information internally by the following formal communication channels:

1) For critical safety-relevant information:

- Confidential Letters;
- CAO IRI intranet (Official Automation System)
- Confidential/Voluntary Reporting System
(<https://www.cao.ir/group/flight-standard-reporting/report>)

2) For non-critical safety-relevant information:

- CAO IRI intranet (Official Automation System)
- Safety Report (annual),
- Ad-hoc Meetings,

- Training Courses, Seminars/Workshops,
- Rules and regulations system in the CAO IRI's website, <https://www.cao.ir/web/english/rules-and-regulation> as well as Notices; Safety Alerts; Safety News in the CAO IRI's website (www.cao.ir), and
- E-Mailing lists.

5.2 External Training, Communication & Dissemination of Safety Information

As safety assurance is a shared responsibility between CAO IRI and service providers under the concept of SMS, it is pertinent for the service providers to understand safety management from the perspectives of international organisations and regulators.

This understanding augments the various facets of safety assurance, safety oversight and safety data collection analysis and exchange, and strengthens the underlying proactive safety culture within I.R. of Iran.

5.2.1 External Training by CAO IRI

CAO IRI contributes to the growth of international safety-related technical personnel through the provision of training on these respective topics at the CATC and other approved organizations.

SMS training outlines for service providers are established in the CAO IRI CAD 1019 and CAO IRI organises training courses and workshops on key specific topics to ensure effective promotion of safety information.

5.2.2 External Communication & Dissemination of Safety Information

CAO IRI promotes the establishment of safety information sharing or exchanging among the aviation community, unless the national law provides otherwise.

When communicating and disseminating safety information externally with the aviation industry, in addition to the items presented in the previous section, CAO IRI also considers:

- 1) Guidance material for the implementation of SMS;
- 2) Importance of reporting;

- 3) Identification of available safety training for the aviation community;
- 4) Promoting the exchange of safety information:
 - With and among service providers;
 - With other states; and
 - Through ICAO SMI portal.

The CAO IRI also conducts safety review meetings with other authorities through mutual agreements. The State Safety Programme document and its related safety and enforcement policies are published on the CAO IRI website which is the primary means to disseminate safety information externally.

The CAO IRI's internet site is used to disseminate guidance and regulatory requirements to all stakeholders. Where changes to requirements are made, notices of amendments or drafts would be issued on the website, and notified by E-mail and short message system to the subscribed members. The industry is encouraged to subscribe to the electronic notification service offered by CAO IRI for notifications on rulemaking and events which are free of charge.

The CAO IRI has established the following methods of communication and dissemination of safety-related information:

- 1) Confidential/Voluntary Reporting System;
(<https://www.cao.ir/group/flight-standard-reporting/report>)
- 2) CAO IRI website (www.cao.ir);
- 3) Safety Recommendations in the ACCIDENT/INCIDENT final reports (<https://www.cao.ir/web/accidents/reports>);
- 4) Mandatory Occurrence Reporting system in the CAO IRI's ECCAIRS and OFFLINE SAFETY REPORTING SYSTEM;
- 5) NOTAM;
- 6) Seminars/Workshops;
- 7) Ad-hoc Meetings;
- 8) External Training Courses;

- 9) Aeronautical Safety Circulars, Public Notices and Circulars; safety related information
- 10) Mailing lists; and
- 11) Safety Directives, Airworthiness Directives etc.

The effectiveness of dissemination of safety data is assessed as part of the CAO IRI CAD 1819 and also through the auditing process of approved organisations and certificate holders.

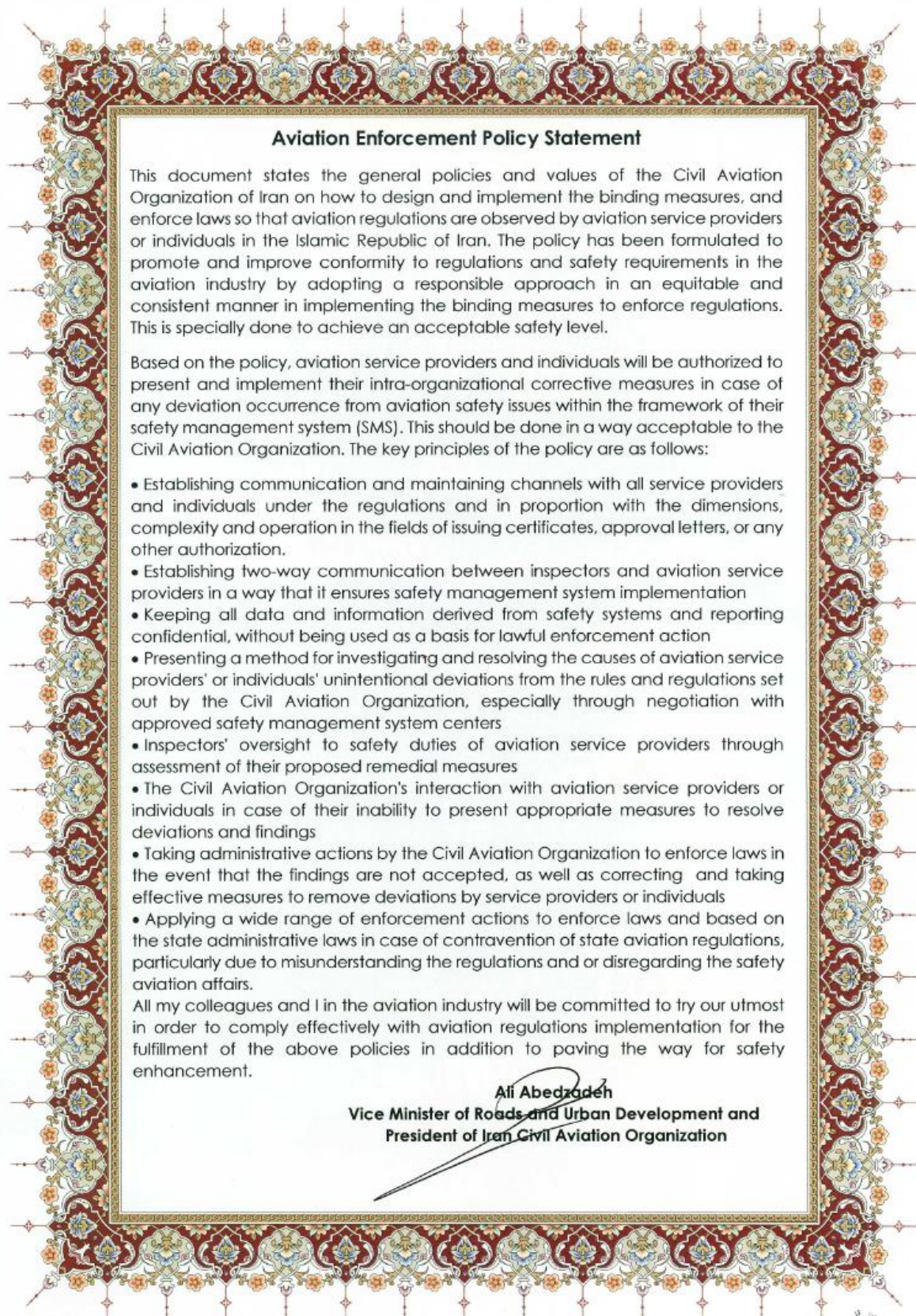
6 APPENDICES

6.1 Appendix A: Acronyms/ Abbreviations

AAD	ANS & Aerodrome Department
AAIB	Air Accident Investigation Board
AeMC	Aero-Medical Centre
ACC	Area Control Centre
ACI	Airports Council International
ADREP	Accident/ Incident Data Reporting
AIP	Aeronautical Information Publication
AIRS	Accident & Incident Reporting System
AIS	Aeronautical Information Service
ALoSP	Acceptable Level of Safety Performance
AMC	Acceptable Means of Compliance
AMO	Approved Maintenance Organization
ANS	Air Navigation Services
ANSP	Air Navigation Service Provider
AOC	Air Operator Certificate
A/R	Authority Requirements
ATO	Approved Training Organization
ATS	Air Traffic Services
BASA	Bilateral Aviation Safety Agreement
CAA	Civil Aviation Act (of I.R. of Iran)
CAD	Civil Aviation Directive
CAMO	Continuing Airworthiness Management Organization
CAO IRI	Civil Aviation Organization of I.R. of Iran
CAP	Corrective Action Plan
CAT	Commercial Air Transport
CATC	Civil Aviation Technology College
CE	Critical Element
CMA	Continuous Monitoring Approach
CVRS	Confidential & Voluntary Reporting System
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
ECCAIRS	European Coordination Center for Accident and Incident Reporting System
EI	Effective Implementation
FSTD	Flight Simulation Training Devices
GASP	Global Aviation Safety Plan
GM	Guidance Material
GSAF	General Staff of the Armed Forces
IAC	Iran Airport and Air Navigation Services Company
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization

ICAR	Iran Civil Aviation Requirement
ICAS	Iran Civil Aviation Standards
IGA	International General Aviation
IHSRC	Iranian Helicopter Support and Renewal Company
IRIMO	Islamic Republic of Iran Meteorological Organization
I.R. of Iran	Islamic Republic of Iran
MRUD	Ministry of Roads and Urban Development of I.R. of Iran
MTOM	Maximum Take Off Mass
NASC	National Aviation Safety Committee
NASP	National Aviation Safety Plan
NOTAM	Notice to Airmen
OJT	On the Job Training
POA	Production Organization Approval
PSOE	Present-Suitable-Operating-Effective
QMS	Quality Management System
SAFA	Safety Assessment of Foreign Aircraft
SAR	Search and Rescue
SARP	Standards and Recommended Practice
SDCPS	Safety Data Collection and Processing System
SMI	Safety Management Implementation
SMICG	Safety Management International Collaboration Group
SMM	Safety Management Manual
SMS	Safety Management System
SPI	Safety Performance Indicator
SPT	Safety Performance Target
SSC	Safety Steering Committee
SSP	State Safety Programme
SSP-AE	SSP Accountable Executive
SQAD	Safety & Quality Assurance Department
SRR	Safety Reporting Regulation
SRM	Safety Risk Management
TNA	Training Needs Analysis
USOAP	Universal Safety Oversight Audit Programme

6.2 Appendix B: State Enforcement Policy Statement



6.3 Appendix C: State Safety Policy Statement



6.4 Appendix D: SSP implementation plan

The SSP implementation plan aims to progressively enhance the existing State safety oversight and safety management processes. The appropriate tasks / subtasks are prioritized and documented in an action plan.

An SSP implementation plan, together with the SSP document, provides the 'blueprint' which guides the State's journey toward more effective safety management and continuous improvement of safety performance. These two key documents are readily accessible to all relevant personnel to ensure everyone involved is aware of the SSP and its plans for implementation.

The SSP gap analyses are conducted before developing or amending the SSP implementation plan. The SSP Gap Analysis Tool developed by ICAO used on the ICAO iSTAR 2.0 SPACE is including provision to develop and consider an implementation plan (<https://portal.icao.int/space/Pages/SSP-Gap-Analysis.aspx>).

The SSP gap analysis Tool supports CAO IRI in developing a detailed understanding of the gaps between the existing structures and processes and those required for an effective SSP implementation in I.R. of Iran.