



Photo Credit: Liew Tong Leng

Working Together to Uphold Aviation Safety Standards

Ang Ruiyi, Senior Manager (Safety Monitoring & Assurance Branch)
Safety Regulation Group, Civil Aviation Authority of Singapore
October 2022

As the aviation sector ramps up operations to meet the surge in air travel demand, aviation safety remains the top priority of the Civil Aviation Authority of Singapore (CAAS). This was validated by the good results in a global aviation safety audit and a separate assessment, affirming the robustness and effectiveness of Singapore's aviation safety oversight and management regime.

ICAO USOAP Audit on Singapore Affirms Strong Safety Fundamentals

The International Civil Aviation Organization (ICAO) conducts the Universal Safety Oversight Audit Programme (USOAP) audit to assess a State's safety oversight system and to check its compliance with and implementation of ICAO standards, recommended practices and guidance materials (see Figure 1 for more details). All 193 ICAO Member States are required to undergo the USOAP audit periodically.

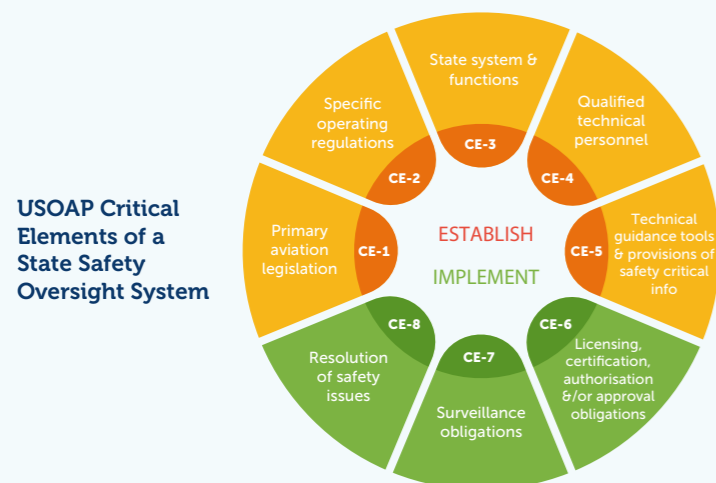


Figure 1: The ICAO USOAP audit is structured into eight Critical Elements and eight Audit Areas.

Audit Areas
Primary aviation legislation & civil aviation regulations (LEG)
Civil aviation organisation (ORG)
Personnel licensing and training (PEL)
Aircraft operations (OPS)
Airworthiness of aircraft (AIR)
Aircraft accident and incident investigation (AIG)
Air navigation services (ANS)
Aerodromes and ground aids (AGA)



ICAO and Singapore teams at the Closing Session of the USOAP audit

The latest ICAO USOAP audit of Singapore was a smaller-scale audit conducted from 18 to 22 April 2022 by a team of two auditors, which focused on Personnel Licensing & Training and Aircraft Airworthiness. Prior to that, Singapore last underwent a full audit in 2010, and subsequently an ICAO Coordinated Validation Mission in 2021 which served to validate the corrective actions taken to address the findings arising from the 2010 audit.

Following zero findings for the USOAP audit, Singapore achieved an Effective Implementation (EI) score of 99.7%. This was an improvement from the audit in 2010, when Singapore achieved 98.6%. The current global average EI score is 67.5%.

Singapore First Member State to Undergo Phase 2 SSPIA

Back-to-back with the USOAP audit, Singapore also became the first State to undergo Phase 2 of ICAO's State Safety Programme Implementation Assessment (SSPIA). The SSPIA was conducted by a team of six assessors from 4 to 14 April 2022.

The SSPIA covered four areas – General Aspects, Safety Data Analysis, Aircraft Operations and Aerodromes & Ground Aids (see Figure 2 for more details). The SSPIA uses a performance-based approach to assess the effectiveness and maturity of a State's SSP to proactively identify and manage safety risks.

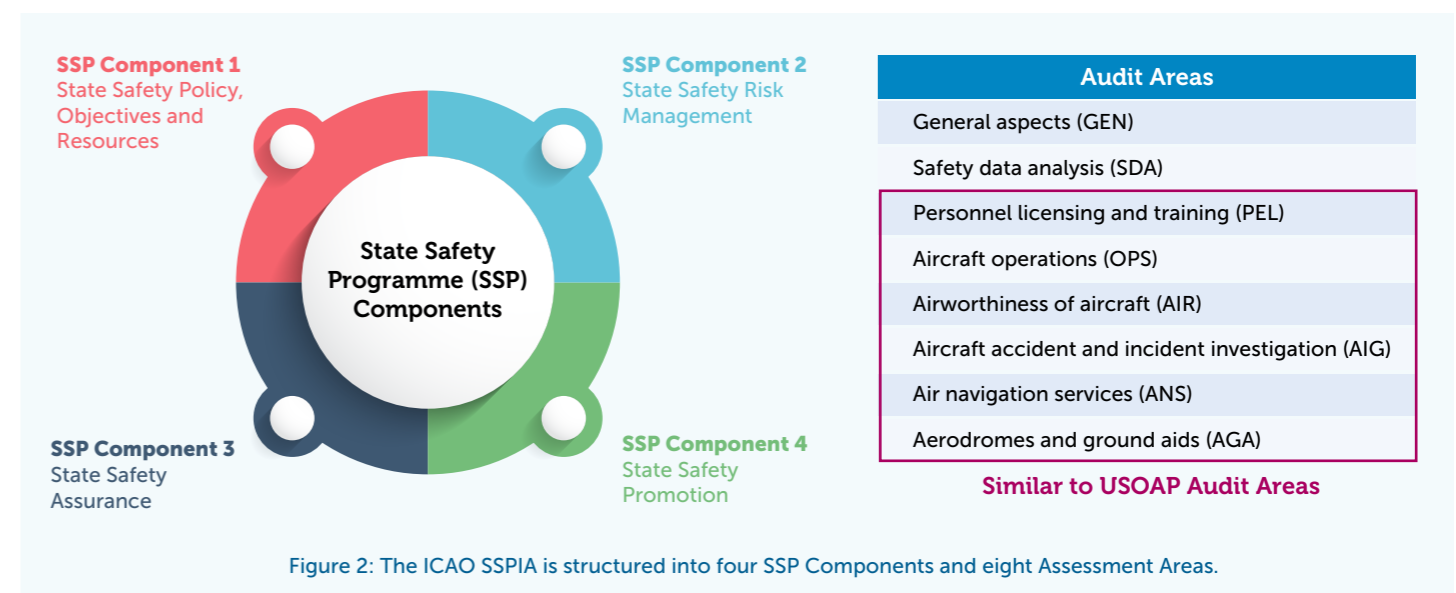


Figure 2: The ICAO SSPIA is structured into four SSP Components and eight Assessment Areas.

Under the SSPIA, a maturity level is associated with each assessed Protocol Question (PQ), which assesses a certain aspect of the SSP. The five maturity levels range from "Level 0" (lowest) to "Level 4" (highest). Currently, States are assessed only up to "Level 3" as Phase 2 SSPIA is new, introduced in 2021.

Singapore was assessed to be at "Level 3" in 39 of the 44 PQs assessed, and "Level 2" for the remaining five PQs. "Level 2" is an indication that a particular aspect needs more time to mature or could be improved on, and does not necessarily translate to a lack of effectiveness.



ICAO and Singapore teams at the Closing Session of the SSPIA

Industry Plays Vital Role in Ensuring Success of the SSP

The COVID-19 pandemic has introduced unprecedented challenges, but we have built good foundations over the years – such as a strong safety regime, strong safety culture, and strong safety leadership. These foundations are critical not only in addressing COVID-related safety risks, but also other existing and emerging aviation safety risks. The strong foundations reflect the collective effort and unwavering commitment of our aviation industry towards safety and in maturing our Singapore State Safety Programme (SSP). Our industry plays a vital role through adopting proactiveness in risk management, voluntary reporting, data sharing, and safety leadership to prioritise resources.

These attributes of our SSP were validated through the industry visits conducted by ICAO as part of its assessment and audit in April 2022. Selected industry organisations included Singapore Aero Engine Services Private Limited (SAESL) and Boeing Singapore Training & Flight Services for the USOAP audit, and Jetstar Asia and Changi Airport Group for the SSPIA.



USOAP Industry Visit to SAESL

Onsite, the organisations shared their challenges and achievements in safety management system (SMS) implementation, such as sharing of safety information and hazards, and their plans to mature their SMS. The ICAO team was impressed by the close working relationship between CAAS and the organisations, as well as among the aviation community.

We would like to thank these organisations for participating in the SSPIA and USOAP audit, and also for the aviation community's valuable contributions to the Singapore SSP.



SSPIA Industry Visit to Changi Airport Group

The Road Ahead

CAAS will continue to work with the industry to strengthen the areas for improvement identified through the SSPIA. These efforts include the timely implementation of the initiatives laid out in the National Aviation Safety Plan launched in April 2022, which sets the actions the Singapore aviation sector will take over the next three years to further strengthen aviation safety. Focal areas include further maturing and enhancing our SSP and industry SMS, as well as strengthening our safety data analysis capabilities and industry safety culture.

Keeping Safety at the Forefront

While the ICAO safety audit and assessment were timely checks and affirmations of our aviation community's hard work over the years to uphold the highest safety standards, we are cognisant that we must never take safety for granted. Aviation is a complex, highly interconnected ecosystem comprising many companies, big and small, and individual safety actors including pilots, air traffic controllers and maintenance technicians. Our Singapore aviation sector must continue to work together to keep safety at the forefront, even as we forge ahead towards the full recovery of air travel.



Sign up [here](#) to receive notifications whenever a new edition is published.



We value your input. Kindly provide your feedback to [The Leading Edge here](#).

Editor
Dalen Tan

Assistant Editors
Tang Kok Liang
Michelle Teo

Contact
CAAS_Safety_Promotion@caas.gov.sg
www.caas.gov.sg

The Leading Edge is a publication of the Civil Aviation Authority of Singapore (CAAS). The articles in this publication do not constitute advice and are for general information only. The views expressed by the contributors are not necessarily those of CAAS, and should not be attributed to CAAS.

CAAS as well as each contributor shall not be liable at any time for damages or otherwise, including, without limitation, damages for loss of any kind, arising in contract, tort or otherwise from the use or reading of any part or whole of the publication, or from any action taken or refrained from being taken as a result of using or reading any part or the whole of

this publication. Any reference to any person/entity in any article should not be taken as an endorsement, recommendation or preference by CAAS. The copyright in this publication is owned by CAAS, unless otherwise specified. Reproducing copies of this publication within your company or organisation or for your own personal use is permitted but reproduction for publication otherwise is prohibited.

All rights are reserved. If you wish to use or reference this publication for any other purpose e.g. as training material for students, please contact us for CAAS' formal agreement.