ICAO WORKSHOP ON THE IMPLEMENTATION OF A NATIONAL AVIATION SAFETY PLAN

Handout 2:
National Aviation Safety Plan Template

NATIONAL AVIATION SAFETY PLAN OF [STATE]

1. INTRODUCTION

1.1 Overview of the NASP[1]

[State] is committed to enhancing aviation safety and to the resourcing of supporting activities. The purpose of this national aviation safety plan (NASP) is to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a national aviation safety strategy. A safe aviation system contributes to the economic development of [State] and its industries. The NASP promotes the effective implementation of [State's] safety oversight system, a risk-based approach to managing safety, as well as a coordinated approach to collaboration between [State] and other States, regions and industry. All stakeholders are encouraged to support and implement the NASP as the strategy for the continuous improvement of aviation safety.

The NASP of [State] is in alignment with the ICAO *Global Aviation Safety Plan* (GASP, Doc 10004) and the [name of the regional aviation safety plan (RASP)].

[Signature]
[Name]
[Title (e.g. *Director General of Civil Aviation or Minister of Transport*)

[1] Section 1.1. may also be presented as a standalone foreword.

1.2 Structure of the NASP

This NASP presents the strategy for enhancing aviation safety for a period of [number] years. It is comprised of six sections. In addition to the introduction, sections include: the purpose of the NASP, [State's] strategic approach to managing aviation safety, the national operational safety risks identified for the [date interval (e.g. *2020-2022*)] NASP, other safety issues addressed in the NASP, and a description of how the implementation of the safety enhancement initiatives (SEIs) listed in the NASP is going to be monitored.

1.3 Relationship between the NASP and the State safety programme (SSP)

[Paragraph below only applies to States that have not fully implemented an SSP]

This NASP addresses operational safety risks identified in the ICAO GASP and the [name of the RASP] in the absence of [State]'s SSP. [State] is committed to fully implement an SSP by [date] as a State's responsibilities for the management of safety comprise both safety oversight and safety management, collectively implemented through an SSP. Initiatives listed in this NASP address organizational challenges and aim to enhance organizational capabilities related to effective safety oversight.

or

[Paragraph below only applies to States that have fully implemented an SSP]

Through an effective SSP, [State] identifies and mitigates national operational safety risks. The SSP provides safety information to the NASP. The SSP allows [State] to manage its aviation activities in a coherent and proactive manner, measure the safety performance of its civil aviation system, monitor the implementation of the NASP's SEIs and address any identified hazards and deficiencies. The NASP is one of the key documents produced as part of [State]'s SSP documentation. It is the means by which [State] defines, and drives the implementation of SEIs generated by the SSP process and drawn from the ICAO GASP and the [name of the RASP]. It also allows [State] to determine initiatives to strengthen the SSP or otherwise needed to achieve its safety objectives. Safety intelligence gathered through the SSP also contributes to other national plans, such as the air navigation plan. Further information on [State]'s SSP can be found at [link to website, if available].

1.4 Responsibility for the NASP development, implementation and monitoring

The [name of responsible entity (e.g. *CAA*)] is responsible for the development, implementation and monitoring of the NASP, in collaboration with [list names of entities] and with the national aviation industry. The NASP was developed in consultation with national operators and other stakeholders, and in alignment with the [current edition] of the GASP and the [name of the RASP].

1.5 National safety issues, goals and targets

The NASP addresses the following national safety issues:

1) [list risks and other safety issues];

2) [e.g. *Loss of control in-flight occurrences, bird strikes, the lack of aircraft accident and incident investigation capabilities at the national level*];

3) […].

In order to address the issues listed above and enhance safety at the national level, the [date interval] NASP contains

the following goals and targets:

1) [list goals and targets];

2) [e.g. *Goal 1: Achieve a continuous reduction of operational safety risks and Target 1.1: Maintain a decreasing trend of the national accident rate*];

3) […].

1.6 Operational Context

There are [number] certified aerodromes in [State], including [number] international aerodromes. The airspace of [State] is classified into Class [list all airspace classes]. There were [number] of movements in [State] over the period of [year] to [year]. There are currently [number] air operator certificates (AOCs) issued by [State], and of those there are [number] issued to operators conducting international commercial air transport operations. [State] also has [number] operators, which operate domestic air taxi services, primarily on turboprop aircraft, as well as [number] helicopter operators. There are [number] of heliports in [State]. Common challenges in [State] include: [list challenges, e.g. *Topography, meteorology, infrastructure, and socio-political issues*].

2. PURPOSE OF [STATE]'S NATIONAL AVIATION SAFETY PLAN

The NASP is the master planning document containing the strategic direction of [State] for the management of aviation safety for a period of [number] years ([year] to [year]). This plan lists national safety issues, sets national aviation safety goals and targets, and presents a series of safety enhancement initiatives (SEIs) to address identified safety deficiencies and achieve the national safety goals and targets.

The [name of the civil aviation master plan, where one is established (include link to website, if available)] addresses all aspects of air transport at the State-level with the objective of providing a clear and comprehensive planning and implementation strategy for the future development of the entire civil aviation sector. The NASP contains in-depth information specific to aviation safety aspects that are referenced in [name of the civil aviation master plan, where one is established].

The NASP has been developed using international safety goals and targets and HRCs from both the GASP (www.icao.int/gasp) and the [name of the RASP]. These are highlighted in the text, where applicable. The SEIs listed in the NASP support the improvement of safety at the wider regional and international levels and include several actions to address specific safety risks and recommended SEIs for individual States set out in the [name of the RASP (include link to website, if available)]. [State] has adopted these SEIs and has included them in this plan. Cross-references are provided to the [name of the RASP] for individual SEIs where relevant.

3. [STATE]'S STRATEGIC APPROACH TO MANAGING AVIATION SAFETY

[Paragraph below only applies to States that have not fully implemented an SSP]

The NASP presents the SEIs that were developed based on the organizational challenges (ORG) and operational safety risks (OPS), as presented in the ICAO global aviation safety roadmap, as well as State-specific issues identified by [list methods, e.g. *legislation, directive, etc.*]. This plan is developed and maintained by [name of responsible entity, e.g. *CAA*], in coordination with all stakeholders and is updated at least every [number] years.

or

[Paragraph below only applies to States that have fully implemented an SSP]

The NASP presents the SEIs derived from the SSP, including [State]'s safety risk management process and safety data collection and processing systems, as well as the work undertaken by service providers in the development and implementation of their safety management systems (SMS). This plan is developed and maintained by [name of responsible entity, e.g. *CAA*], in coordination with all stakeholders and is updated at least every [number] years.

The NASP includes the following national safety goals and targets, for the management of aviation safety, as well as a series of indicators to monitor the progress made towards their achievement. They are tied to the goals, targets and indicators listed in the GASP and the [name of the RASP] and include additional national safety goals, targets and indicators (if applicable to the State).

Goal	Target	Indicators	Link to GASP and RASP
[list goals]	[list targets]	[list indicators]	[describe link]
1. *Achieve a continuous reduction of operational safety risks*	1.1 *Maintain a decreasing trend of the national accident rate.* 1. *n*	1.1.1 *Number of accidents occurring in the State per 10,000 departures.* 1.1.2 *Number of accidents occurring in the State to aircraft over 5700 kg involved in scheduled commercial operations.* 1.2. *n*	*This goal is directly linked to Goal 1 and Target 1.1 of the GASP and linked to Goal 1 and Target 1.1 of the RASP.*
2. *Strengthen the State's safety oversight capabilities*	2.1 *By 2026, reach an effective implementation score of 85%.* 2. *n*	2.1.1 *Overall EI score for the State.* 2.1.2 *Percentage of priority PQs implemented nationally.* 2.1.3 *Percentage of*	*This goal is directly linked to Goal 2 and Target 2.1 of the GASP and linked to Goal 2 and Target 2.1 of the RASP.*

		completed corrective action plans (CAPs) completed nationally. 2.2. *n*	
3.	3.1 3. *n*		
4.	4.1 4. *n*		
5.	5.1 5. *n*		
6.	6.1 6. *n*		

The SEIs in this plan are implemented through [State]'s existing safety oversight capabilities and the service providers' SMS. SEIs derived from the ICAO global aviation safety roadmap were identified to achieve the national safety goals and targets presented in the NASP. Some of the national SEIs are linked to overarching SEIs at the regional and international levels and help to enhance safety globally. The full list of the SEIs is presented in the appendix to the NASP.

The NASP also addresses emerging issues. Emerging issues include concepts of operations, technologies, public policies, business models or ideas that might impact safety in the future, for which insufficient data exists to complete typical data-driven analysis. It is important that [State] remain vigilant on emerging issues to identify potential safety risks, collect relevant data and proactively develop mitigations to address them. The NASP addresses the following emerging issues, which were identified by [describe the process, e.g. *an analysis conducted by service providers*] for further analysis:

1) [list emerging issues]

2) [e.g. *small drones operating in the vicinity of aerodromes*]

3) […]

4. NATIONAL OPERATIONAL SAFETY RISKS

The NASP includes SEIs that address national operational safety risks, derived from lessons learned from operational occurrences and from a data-driven approach. These SEI may include actions such as: rule-making; policy development; targeted safety oversight activities; safety data analysis; and safety promotion. Separate sections are provided to address commercial air transport and general aviation, in order to make the information more accessible to stakeholders (if applicable to the State).

[State] publishes an Annual Safety Report, available on the [State] website [insert link to website, if available]. The summary of accidents and serious incidents that occurred in [State] and those for aircraft registered in [State] involved in commercial air transport and aircraft involved in general aviation is shown in the table below.

Year	Fatal accidents	Non-fatal accidents	Serious incidents
Commercial air transport occurrences in [State]			
[year to year, average]			
[current year]			
General aviation aircraft occurrences in [State]			
[year to year, average]			
[current year]			

Year	Fatal accidents	Non-fatal accidents	Serious incidents
Occurrences involving commercial air transport aircraft registered in [State]			
[year to year, average]			
[current year]			
Occurrences involving general aviation aircraft registered in [State]			
[year to year, average]			
[current year]			

The following [number] national High Risk Categories (HRCs) of occurrences in the [State] context were considered of the utmost priority because of the number of fatalities and risk of fatalities associated with such events. They were identified based on analyses from mandatory and voluntary reporting systems, accident and incident investigation reports, safety oversight activities over the past [number] years, the SSP (if applicable to the State), as well as on the

basis of regional analysis conducted by [list names of entities, e.g. *RASG, RSOO, PIRG, and/or RAIO*] and on the operational safety risks described in the GASP. These HRCs are in line with those listed in the [current edition] of the GASP, as well as the [name of the RASP]:

1) [list HRCs]

2) [e.g. *Loss of control in-flight (LOC-I)*]

3) […]

In addition to the national operational safety risks listed above, the following additional categories of operational safety risks have been identified:

1) [list additional categories of operational safety risks]

2) [e.g. *Bird strikes*]

3) […]

The aviation occurrence categories from the CAST/ICAO Common Taxonomy Team (CICTT) were used to assess risk categories in the process of determining national operational safety risks. The CICTT Taxonomy is found on the ICAO website at https://www.icao.int/safety/airnavigation/AIG/Pages/Taxonomy.aspx.

In order to address the national operational safety risks listed above, [State] identified the following contributing factors leading to HRCs and will implement a series of SEIs, some of which are derived from the ICAO OPS roadmap, contained in the GASP:

HRC 1: [name of occurrence category, e.g. *Loss of control in-flight (LOC-I)*]

1) [list contributing factors]

2) [e.g. *Inadequate standard operating procedures for effective flight management*]

3) […]

HRC 2: [name of occurrence category]

1) [list contributing factors]

2) […]

3) […]

HRC *n*: [name of occurrence category]

1) [list contributing factors]

2) […]

3) […]

The full list of the SEIs is presented in the appendix to the NASP.

5. OTHER SAFETY ISSUES

In addition to the national operational safety risks listed in the NASP, [State] has identified other safety issues and initiatives selected for the NASP. These are given priority in the NASP since they are aimed at enhancing and strengthening [State]'s safety oversight capabilities and the management of aviation safety at the national level.

The eight critical elements (CEs) of a safety oversight system are defined by ICAO. [State] is committed to the effective implementation of these eight CEs, as part of its overall safety oversight responsibilities, which emphasize [State]'s commitment to safety in respect of its aviation activities. The eight CEs are presented in the figure below.

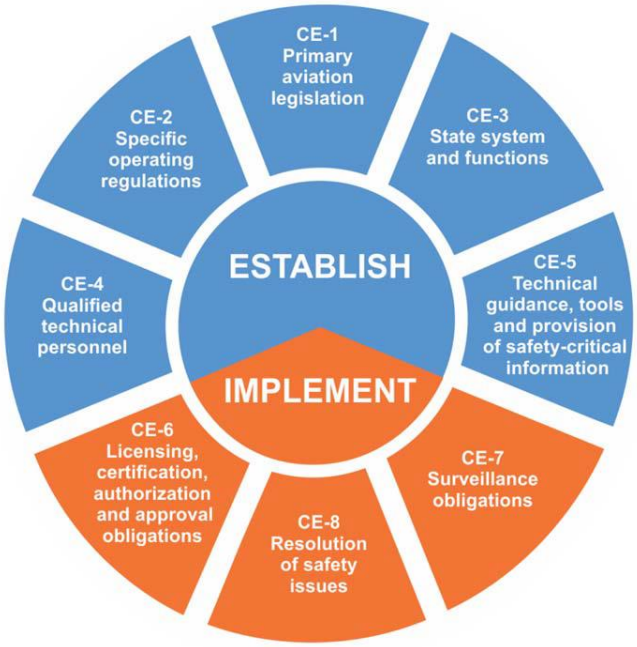

Figure 1. Critical elements of a State's safety oversight system

The latest ICAO activities, which aim to measure the effective implementation of the eight CEs of [State]'s safety oversight system, as part of the ICAO Universal Safety Oversight Audit Programme (USOAP), have resulted in the following scores:

Overall EI score							
[X]%							
EI score by CE							
CE-1	**CE-2**	**CE-3**	**CE-4**	**CE-5**	**CE-6**	**CE-7**	**CE-8**
[X]%	[X]%	[X]%	[X]%	[X]%	[X]%	[X]%	[X]%
EI score by audit area[2]							
LEG	**ORG**	**PEL**	**OPS**	**AIR**	**AIG**	**ANS**	**AGA**
[X]%	[X]%	[X]%	[X]%	[X]%	[X]%	[X]%	[X]%

The safety oversight index (SOI)of a State is an ICAO indicator of its safety oversight capabilities. Every State audited by ICAO has an SOI. It is a number greater than zero where "1" represents a level at which the safety oversight capabilities of a State would indicate the minimum expected capabilities considering the number of departures as an indication of the size of that State's aviation system. The calculations conducted by ICAO of [State]'s SOI have resulted in the following scores:

Overall SOI score	**Score in the area of Operations**	**Score in the area of Air Navigation**	**Score in the area of Support Functions**

The following [number] other safety issues in the [State] context were considered of the utmost priority because they are systemic issues, which impact the effectiveness of safety risk controls. They were identified based on analysis from USOAP data, accident and incident investigation reports, safety oversight activities over the past [number] years, the SSP (if applicable to the State), as well as on the basis of regional analysis conducted by [list names of entities, e.g. *RASG, RSOO, PIRG, and/or RAIO*]. These issues are typically organizational in nature and relate to challenges associated with the conduct of States' safety oversight functions, implementation of SSP at the national level and the level of SMS implementation by national service providers. They take into consideration organizational culture, policies and procedures within [list names of the State's entities] and those of service providers. These safety issues are in line with those listed in the [current edition] of the GASP, as well as the [name of the RASP]:

1) [list safety issues and briefly explain why they were given priority]

2) [e.g. L*ack of aircraft accident and incident investigation capabilities at the national level. This was the area where the State received the lowest EI score during the most recent ICAO USOAP*

[2] Eight audit areas pertaining to USOAP, i.e. primary aviation legislation and civil aviation regulations (LEG), civil aviation organization (ORG); personnel licensing and training (PEL); aircraft operations (OPS); airworthiness of aircraft (AIR); aircraft accident and incident investigation (AIG); air navigation services (ANS); and aerodromes and ground aids (AGA).

audit and was therefore placed as a high priority issue to resolve.]

3) […]

In order to address the issues listed above, [State] will implement a series of SEIs, some of which are derived from the ICAO ORG roadmap, contained in the GASP. The full list of the SEIs is presented in the appendix to the NASP.

6. MONITORING IMPLEMENTATION

[State] will continuously monitor the implementation of the SEIs listed in the NASP and measure safety performance of the national civil aviation system, to ensure the intended results are achieved, using the mechanisms presented in the appendix to this plan.

In addition to the above, [State] will review the NASP every [number] years or earlier, if required, to keep the identified operational safety risks, safety issues and selected SEIs updated and relevant. The [name of responsible entity (e.g. CAA)] will periodically review the safety performance of the initiatives listed in the NASP to ensure the achievement of national safety goals and targets. If required, [State] will seek the support of [list names of entities (e.g. RASG, industry] to ensure the timely implementation of SEIs to address safety deficiencies and mitigate risks. Through close monitoring of the SEIs, [State] will make adjustments to the NASP and its initiatives, if needed, and update the NASP accordingly.

[State] will use the indicators listed in Section 3 of this plan to measure safety performance of the civil aviation system and monitor each national safety target. A periodic [e.g. annual, every three years, etc.] safety report will be published to provide stakeholders with relevant up-to-date information on the progress made in achieving the national safety goals and targets, as well as the implementation status of the SEIs.

In the event that the national safety goals and targets are not met, the root causes will be presented. If [State] identifies critical safety risks, reasonable measures will be taken to mitigate them as soon as practicable, possibly leading to an unscheduled revision of the NASP.

[State] adopted a standardized approach to provide information at the regional level, for reporting to the RASGs [describe methodologies used by the region]. This allows the region to receive information and assess safety risks using common methodologies.

Any questions regarding the NASP and is initiatives, and further requests for information may be addressed to the following:

[Name of responsible entity]
[Mailing address]
[Telephone number]
[Fax number]
[Email]
[Website]

APPENDIX TO THE NASP

DETAILED SEIs: NATIONAL OPERATIONAL SAFETY RISKS

HRC x: [name of HRC e.g. *Loss of control in-flight (LOC-I)*]							
Goal x: [name e.g. *Goal 1: Achieve a continuous reduction of operational safety risks*] **Target x.x:** [description e.g. *Target 1.1: Maintain a decreasing trend of the national accident rate*]							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
[name of SEI and GASP SEI number, as well as RASP SEI number, if applicable]	[describe action(s)]	[insert timeframe for completion]	[name]	[list stakeholders]	[list metrics/indicators]	[Low/ Medium/ High]	[list mechanisms for verifying SEI implementation]
SEI-n [describe] *(GASP, SEI-x)* *(RASP, SEI-x)*							
e.g. *GASP OPS SEI on LOC-I (State) — Mitigate contributing factors to LOC-I accidents and incidents*	*Require upset prevention and recovery training in all full flight simulator type conversion and recurrent training programmes*	*Q1 2020 to Q4 2022*	*CAA*	• *Operators* • *Approved training organizations (ATO)* • *Flight simulator product and service providers* • *Pilots' associations* • *CAA inspectors*	• *Training programmes updated with upset prevention and recovery* • *Number/percentage of pilots completing upset prevention and recovery training* • *Upset occurrence rates in voluntary reporting* • *Stick-shaker activation events in FDA data* • *LOC-I occurrence rates*	*High*	*Surveillance of operator and ATO training activities*

DETAILED SEIs: OTHER SAFETY ISSUES

Issue x[1]: [name of issue e.g. *Lack of aircraft accident and incident investigation capabilities at the national level*]							
Goal x: [name e.g. *Goal 2: Strengthen the State's safety oversight capabilities*] **Target x.x:** [description e.g. *Target 2.1: By 2026, reach an effective implementation score of 85%*]							
Safety enhancement initiative	**Action**	**Timeline**	**Responsible entity**	**Stakeholders**	**Metrics / Indicators**	**Priority**	**Monitoring Activity**
[name of SEI and GASP SEI number, as well as RASP SEI number, if applicable]	[describe action(s)]	[insert timeframe for completion]	[name]	[list stakeholders]	[list metrics/indicators]	[Low/ Medium/ High]	[list mechanisms for verifying SEI implementation]
SEI-n [describe] *(GASP, SEI-x)* *(RASP, SEI-x)*							
e.g., *GASP ORG SEI-3 (State) — Establishment of an independent accident and incident investigation authority, consistent with Annex 13 — Aircraft Accident and Incident Investigation*	*Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support accident and incident investigations*	*Q1 2020 to Q4 2022*	*Accident investigation board (AIB)*	• *AIB* • *CAA* • *Aircraft manufacturers* • *RAIO*	• *Recruitment system updated with new recruitment package* • *Number of training sessions on accident and incident investigations* • *Number/percentage of personnel completing accident and incident investigator training* • *Number/percentage of investigators retained more than 12 months after recruitment*	*High*	*USOAP/CMA results following next audit*

[1]One issue may be associated with multiple goals and/or targets.

— END —