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ICAO Requirements for State Safety Programme (SSP) and SMS implementation for Air Navigation Service Providers (ANSP)

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Safety Management System (SMS) Implementation

Workshop for Air Navigation Service Providers (ANSPs)

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Overview

- ✈ Benefits of Safety Management.
- ✈ Background.
- ✈ Annex 19 Requirements.
- ✈ What's new?
- ✈ What's next?
- ✈ Why is this so important for the NAM/CAR Regions?



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International Standards
and Recommended Practices

Annex 19 to the Convention on International Civil Aviation

Safety Management

Second Edition, July 2016

This edition supersedes, on 7 November 2019, all previous editions of Annex 19



Benefits of Safety Management

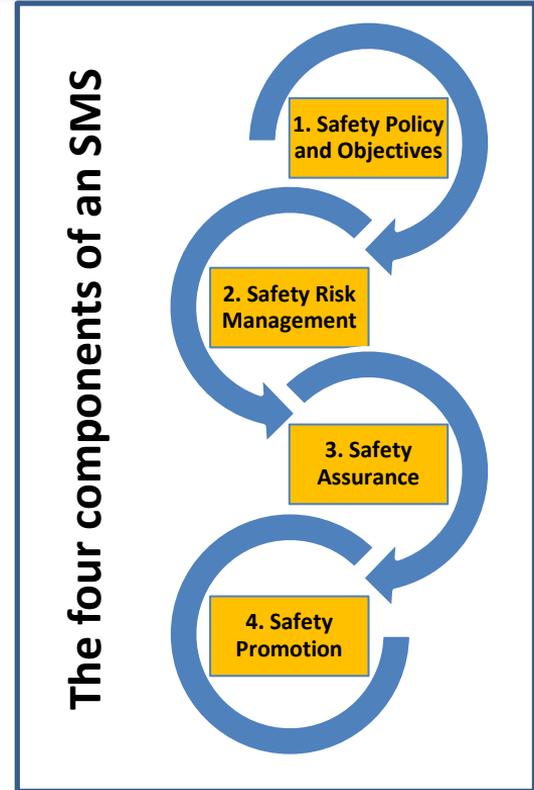
What is a Safety Management System (SMS)?

A **systematic approach to managing safety**, including the necessary organizational structures, accountabilities, policies, and procedures.

It strives to continually **identify safety hazards** and ensures that the associated **safety risks** have been managed properly.



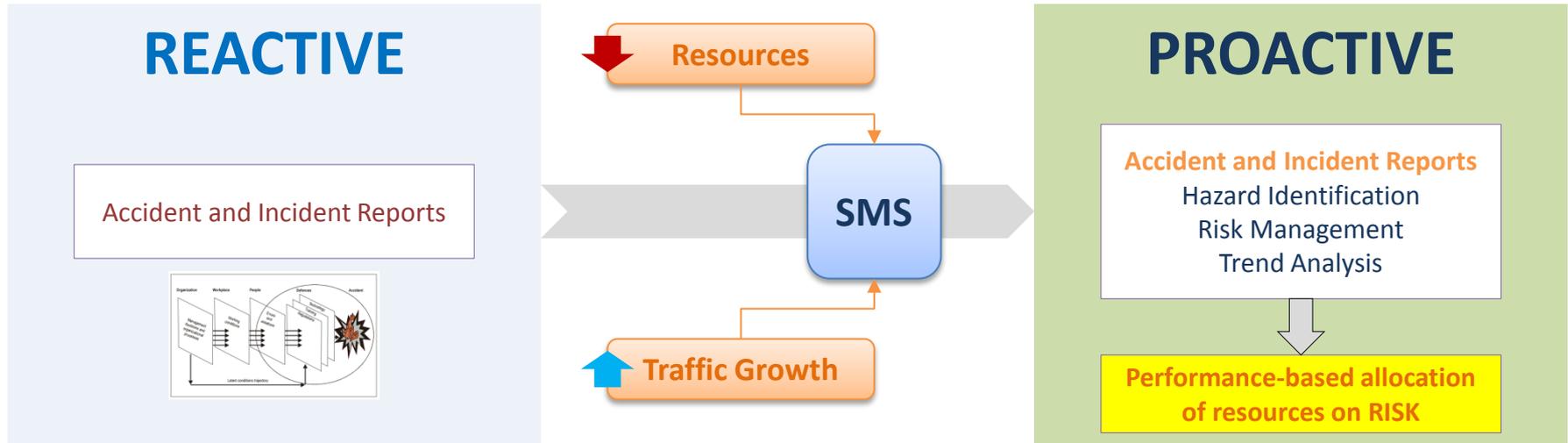
The safety risk management process





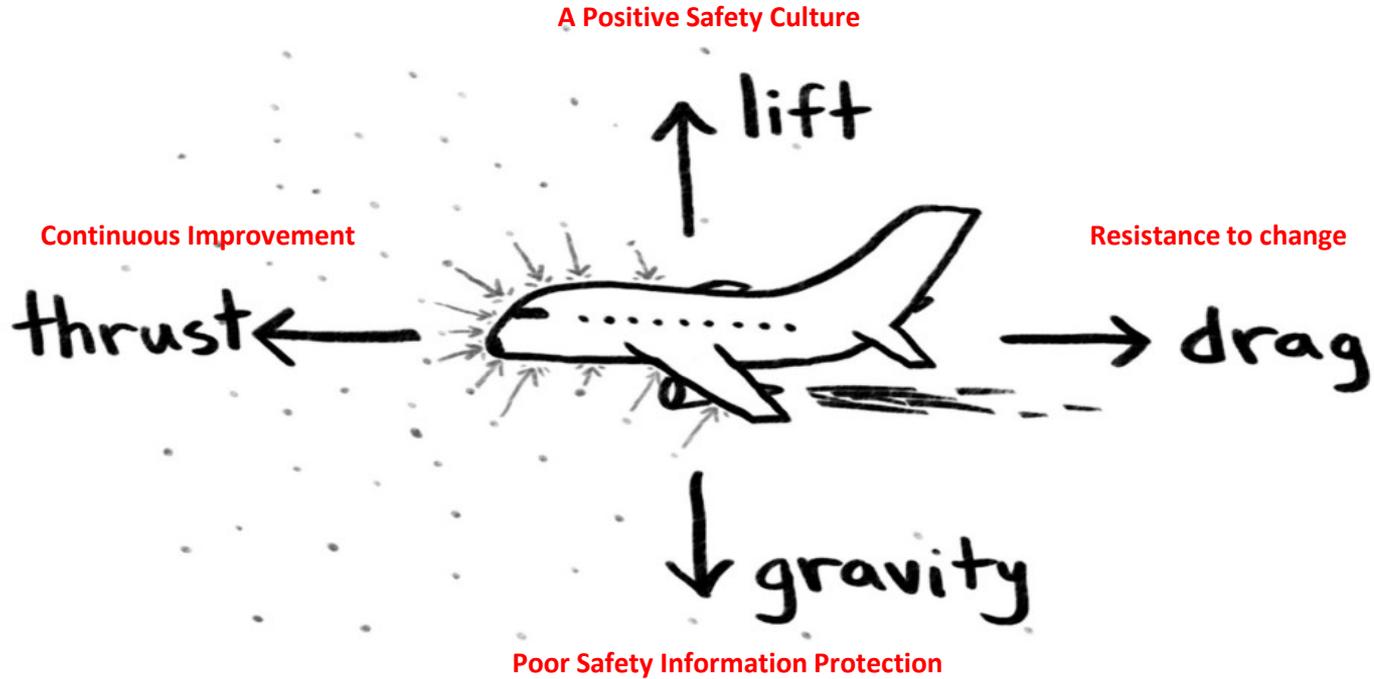
WHY IMPLEMENT SAFETY MANAGEMENT?

- Transition from a *reactive* system, to a *proactive* system
- Higher cost of maintaining the traditional safety oversight approach





The Four Forces Of Flight





Historical Background

Initial Introduction of ICAO Safety Management SARPs

Safety Management SARPs for States

Description	Annex	Effective Date	Applicability Date
Safety Programme	6, 11 and 14	17 July 2006	23 November 2006
State Safety Programmes	1, 8, 13	20 July 2009	18 November 2010
SSP Framework (Attachment)	1, 6, 8, 11, 13 and 14	20 July 2009	18 November 2010

Safety Management SARPs for Service Providers

Description	Annex	Service Provider	Effective Date	Applicability Date
Safety Management Programme	11, amdt. 40	Air Traffic Services (ATS) Providers	16 July 2001	1 November 2001
Safety Management Programme	14, Vol 1, amdt. 4	Certified Aerodromes	16 July 2001	1 November 2001
Safety Management Systems (SMS)	11, amdt 44	ATS providers	17 July 2006	23 November 2006
SMS	14, Vol 1, amdt. 8	Certified Aerodromes	17 July 2006	23 November 2006



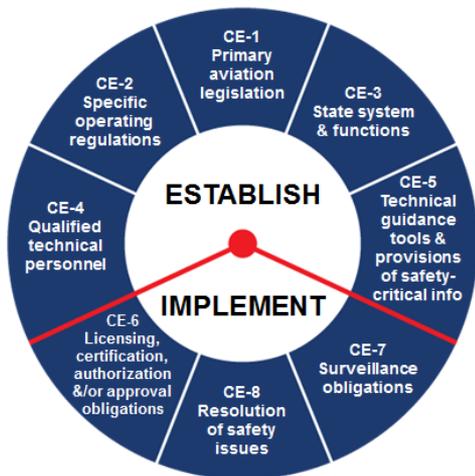
Safety Management SARPs for Service Providers (Cont.)

Description	Annex	Service Provider	Effective Date	Applicability Date
SMS	6, amdt. 31	Air Operators and Approved Maintenance Organizations (AMOs)	16 July 2007	1 January 2009
SMS	6, Part II, amdt. 27	International general aviation	20 July 2008	18 November 2010
SMS	1, amdt. 169B	Safety Management principles applied to the medical assessment process of licence holders and Approved Training Organizations	20 July 2009	18 November 2010
SMS Framework (Appendix)	1, amdt. 169B	Approved Training Organizations	20 July 2009	18 November 2010
SMS Framework (Appendix)	6, amdt. 33B	Air Operators and AMOs	20 July 2009	18 November 2010
SMS Framework (Appendix)	11, amdt. 47B	ATS providers	20 July 2009	18 November 2010
SMS Framework (Appendix)	14, Vol 1, amdt. 10B	Certified Aerodromes	20 July 2009	18 November 2010
SMS	8, amdt. 101	Aircraft design and manufacturing organizations	20 July 2009	14 November 2013



States Responsibilities for Safety Oversight

State Safety Oversight System (SSO)



State Safety Programme (SSP)

ICAO SSP framework

1. **State safety policy and objectives**
 - 1.1 **State safety legislative framework**
 - 1.2 State safety responsibilities and accountabilities
 - 1.3 Accident and incident investigation
 - 1.4 Enforcement policy
2. **State safety risk management**
 - 2.1 Safety requirements for service providers SMS
 - 2.2 Agreement on service providers safety performance
3. **State safety assurance**
 - 3.1 Safety oversight
 - 3.2 Safety data collection, analysis and exchange
 - 3.3 Safety data driven targeting of oversight on areas of greater concern or need
4. **State safety promotion**
 - 4.1 Internal training, communication and dissemination of safety information
 - 4.2 External training, communication and dissemination of safety information

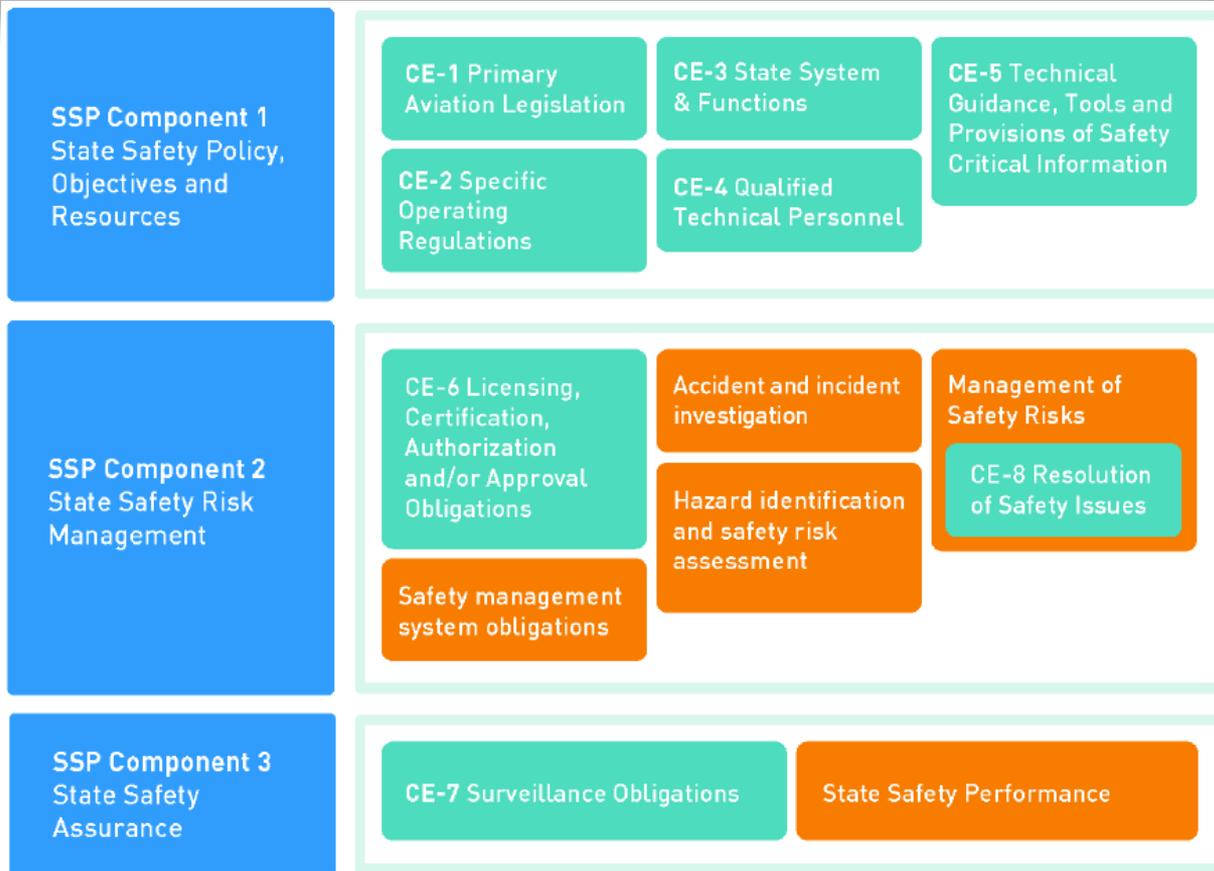


Annex 19 Chapter 3 – State Safety Management Responsibilities

- In response to the need to define the relationship between the eight CEs of a SSO system and the SSP provisions, the provisions related to a State's safety management responsibilities have been integrated.
- The elements of the SSP framework, currently contained in Attachment A of Annex 19, have been elevated to SARPs.
- The impact on States will depend on the progress made in implementing their SSP thus far with higher costs expected for States where the SSP is approved at the highest levels.
- The streamlined provisions are expected to support States in achieving SSP implementation in a more efficient manner.



INTEGRATION





Annex 19 Requirements

State Safety Management Responsibilities

3.1 State safety programme (SSP).

States shall establish and maintain an SSP that is commensurate with the size and complexity of the State's civil aviation system, but may delegate safety management-related functions and activities to another State, Regional Safety Oversight Organization (RSOO) or Regional Accident and Incident Investigation Organization (RAIO).



Annex 19 Requirements

State Safety Management Responsibilities

3.2 State safety policy, objectives and resources.

3.2.1 Primary aviation legislation.

3.2.1.1 States shall establish primary aviation legislation in accordance with section 1 of Appendix 1.

3.2.1.2 Recommendation.— States should establish an enforcement policy that specifies the conditions and circumstances under which service providers with an SMS are allowed to deal with, and resolve, events involving certain safety issues, internally, within the context of their SMS and to the satisfaction of the appropriate State authority.



Annex 19 Requirements

State Safety Management Responsibilities

3.2 State safety policy, objectives and resources.

3.2.2 Specific operating regulations.

3.2.2.1 States shall establish specific operating regulations in accordance with section 2 of Appendix 1.

3.2.2.2 States shall periodically review specific operating regulations, guidance material and implementation policies to ensure they remain relevant and appropriate.



Annex 19 Requirements

State Safety Management Responsibilities

3.2 State safety policy, objectives and resources.

3.2.3 State system and functions.

3.2.3.1 States shall establish State system and functions in accordance with section 3 of Appendix 1.

3.2.3.2 Recommendation.— States should identify, define and document the requirements, obligations, functions and activities regarding the establishment and maintenance of the SSP, including the directives to plan, organize, develop, maintain, control and continuously improve the SSP in a manner that meets the State's safety objectives.

3.2.3.3 Recommendation.— States should establish a safety policy and safety objectives that reflect their commitment regarding safety and facilitate the promotion of a positive safety culture in the aviation community.

3.2.3.4 Recommendation.— The safety policy and safety objectives should be published and periodically reviewed to ensure that they remain relevant and appropriate to the State.



Annex 19 Requirements

State Safety Management Responsibilities

3.2 State safety policy, objectives and resources.

3.2.4 Qualified technical personnel.

States shall establish requirements for the qualification of technical personnel in accordance with section 4 of Appendix 1.

Note.— The term “technical personnel” refers to those persons performing safety-related functions for or on behalf of the State.



Annex 19 Requirements

State Safety Management Responsibilities

3.2 State safety policy, objectives and resources.

3.2.5 Technical guidance, tools and provision of safety-critical information.

States shall establish technical guidance and tools and provide safety-critical information in accordance with section 5 of Appendix 1.



Annex 19 Requirements

State Safety Management Responsibilities

3.3 State safety risk management.

3.3.1 Licensing, certification, authorization and approval obligations.

States shall meet the licensing, certification, authorization and approval obligations in accordance with section 6 of Appendix 1.



Annex 19 Requirements

State Safety Management Responsibilities

3.3 State safety risk management.

3.3.2 Safety management system obligations.

3.3.2.1 States shall require that the following service providers under their authority implement an SMS:

e) air traffic services (ATS) providers in accordance with Annex 11; and

3.3.2.2 Recommendation.— States should ensure that safety performance indicators and targets established by service providers and operators are acceptable to the State.



Annex 19 Requirements

State Safety Management Responsibilities

3.3 State safety risk management.

3.3.3 Accident and incident investigation.

States shall establish a process to investigate accidents and incidents in accordance with Annex 13, in support of the management of safety in the State.



Annex 19 Requirements

State Safety Management Responsibilities

3.3 State safety risk management.

3.3.4 Hazard identification and safety risk assessment.

3.3.4.1 States shall establish and maintain a process to identify hazards from collected safety data.

Note 1. — Further information regarding safety data collection, analysis and the sharing and exchange of safety information can be found in Chapter 5.

Note 2.— Additional information to identify hazards and safety issues on which to base preventive actions may be contained in the Final Reports of accidents and incidents.

3.3.4.2 States shall develop and maintain a process that ensures the assessment of safety risks associated with identified hazards..



Annex 19 Requirements

State Safety Management Responsibilities

3.3 State safety risk management.

3.3.5 Management of safety risks.

3.3.5.1 States shall establish mechanisms for the resolution of safety issues in accordance with section 8 in Appendix 1.

3.3.5.2 Recommendation.— States should develop and maintain a process to manage safety risks.

Note 1.— Actions taken to manage safety risks may include: acceptance, mitigation, avoidance or transfer.

Note 2.— Safety risks and safety issues often have underlying factors which need to be carefully assessed.



Annex 19 Requirements

State Safety Management Responsibilities

3.4 State safety assurance.

3.4.1 Surveillance obligations.

3.4.1.1 States shall meet the surveillance obligations in accordance with section 7 of Appendix 1.

Note.— The surveillance of the service provider takes into consideration the safety performance as well as the size and complexity of its aviation products or services.

3.4.1.2 Recommendation.— States should establish procedures to prioritize inspections, audits and surveys towards those areas of greater safety concern or need.

Note.— Organizational risk profiles, outcomes of hazard identification and risk assessment, and surveillance outcomes may provide information for the prioritization of inspections, audits and surveys.

3.4.1.3 Recommendation.— States should periodically review the safety performance of an individual service provider..



Annex 19 Requirements

State Safety Management Responsibilities

3.4 State safety assurance.

3.4.2 Surveillance obligations.

3.4.2.1 States shall establish the acceptable level of safety performance to be achieved through their SSP. Note 1.— An acceptable level of safety performance for the State can be achieved through the implementation and maintenance of the SSP as well as safety performance indicators and targets showing that safety is effectively managed and built on the foundation of implementation of existing safety-related SARPs.

3.4.2.2 Recommendation.— States should develop and maintain a process to evaluate the effectiveness of actions taken to manage safety risks and resolve safety issues.

Note.— Safety assessment results may be used to support the prioritization of actions to manage safety risks.

3.4.2.3 Recommendation.— States should evaluate the effectiveness of their individual SSPs to maintain or continuously improve their overall level of safety performance.



Annex 19 Requirements

State Safety Management Responsibilities

3.5 State safety promotion.

3.5.1 Internal communication and dissemination of safety information.

Recommendation.— States should promote safety awareness and the sharing and exchange of safety information to support, within the State aviation organizations, the development of a positive safety culture that fosters an effective SSP.

3.5.2 External communication and dissemination of safety information.

Recommendation.— States should promote safety awareness and the sharing and exchange of safety information with the aviation community to foster the maintenance and improvement of safety and to support the development of a positive safety culture.



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Annex 19 Requirements

Safety Management Systems

4.1.1 The SMS of a service provider shall:

- a) be established in accordance with the framework elements contained in Appendix 2; and
- b) be commensurate with the size of the service provider and the complexity of its aviation products or services.

4.1.2 The State shall ensure that the service provider develops a plan to facilitate SMS implementation.

4.1.8 The SMS of an ATS provider, in accordance with Annex 11, shall be made acceptable to the State responsible for the provider's designation.



Annex 19 Requirements

Safety Management Systems

Appendix 2 to Annex 19 specifies the framework for the implementation and maintenance of an SMS

COMPONENT	ELEMENT
1. Safety policy and objectives	1.1 Management commitment
	1.2 Safety accountability and responsibilities
	1.3 Appointment of key safety personnel
	1.4 Coordination of emergency response planning
	1.5 SMS documentation
2. Safety risk management	2.1 Hazard identification
	2.2 Safety risk assessment and mitigation
3. Safety assurance	3.1 Safety performance monitoring and measurement
	3.2 The management of change
	3.3 Continuous improvement of the SMS
4. Safety promotion	4.1 Training and education
	4.2 Safety communication



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What's New?

✈ ICAO Safety Management Implementation Website.

- ✈ This website complements the 4th edition of the ICAO Safety Management Manual (SMM) and provides examples, tools and supporting educational material to address the diverse needs of the aviation community.
- ✈ The usefulness of these examples to States and service providers depends on a wide range of factors. As such, this website is for informational purposes only. ICAO has established a process for the collection and validation of additional examples for sharing with the aviation community.

<https://www.icao.int/safety/SafetyManagement/Pages/Practical-examples-and-tools.aspx>



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Safety Management Impl

Secure | https://www.unitingaviation.com/publications/safetymanagementimplementation/content/#/?_k=13p4s9



Safety Management Implementation

START





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What's Next?

✈ Annex 11, Amendment 50-B

✈ **2.28 Fatigue management**

applicable on 5 November 2020

✈ **2.28.1 States shall establish regulations for the purpose of managing fatigue in the provision of air traffic control services. These regulations shall be based upon scientific principles, knowledge and operational experience, with the aim of ensuring that air traffic controllers perform at an adequate level of alertness.**



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What's Next?

✈ Annex 11, Amendment 50-B

✈ **2.28 Fatigue management**

applicable on 5 November 2020

✈ **2.28.1 cont. To that aim, States shall establish:**

a) regulations that prescribe scheduling limits in accordance with Appendix 6; and

b) where authorizing air traffic services providers to use a fatigue risk management system (FRMS) to manage fatigue, FRMS regulations in accordance with Appendix 7.



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Why is this so important for the NAM/CAR Regions?

- ✈ ANSPs SMS is key for Safety Management Implementation at State Level.
- ✈ Regional Contingency Planning and Response.
- ✈ Regional Safety Performance Measurement of ANS.
- ✈ Address main safety risks amongst FIRs.



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