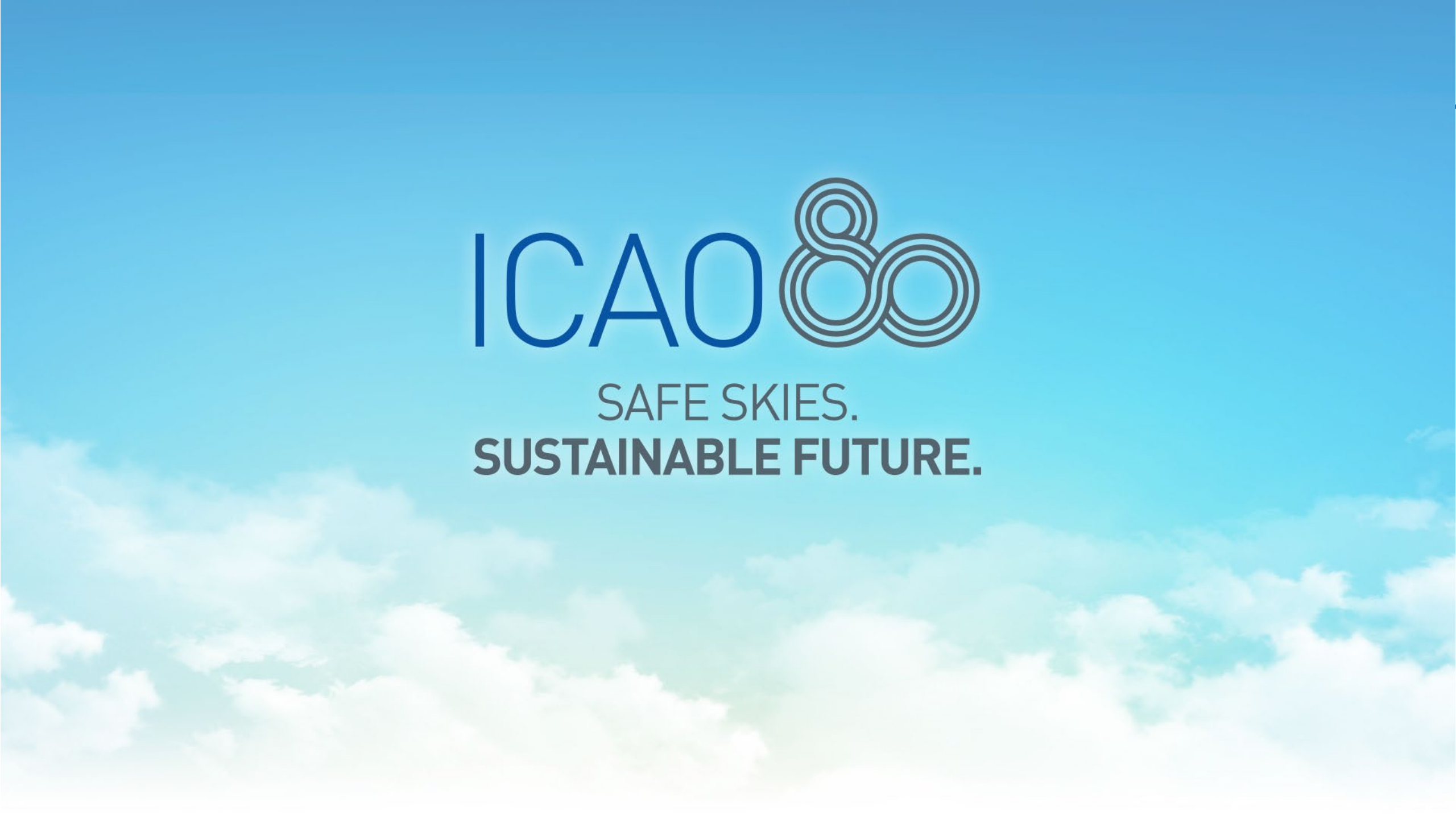
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Air Navigation Services (ANS) Safety Oversight Inspector Workshop

Module 7

Module 7: ANS Safety Oversight – Part I

Chapter 8

ICAO

Module Objective

The participants will be able to identified the principles that should guide safety oversight (and in turn the inspection processes), the scope of safety oversight in the ANS, determine the number of inspectors needed for safety oversight, the establishment of an annual ANS oversight programme and plan, the inspection plan, the types of oversight activities, and the inspection protocols used during ANS safety surveillance.

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Introduction and Objective

The main objective of safety oversight in ANS is to verify compliance with current national requirements and regulations by ANS providers in their various agencies.

In turn, through the safety oversight of the ANS, it is possible to identify elements that need corrective actions to maintain the safety standards of the ANS.

Regarding the determination of the number of inspectors, it is necessary to indicate that this document intends to point out the minimum considerations that the CAA must take into account for this calculation. The methodology used to define this number will depend exclusively on the criteria that the CAA of each State considers most convenient and relevant for its particular scenario.

Safety Oversight Principles

The basic principles that every ANS inspector must keep in mind when carrying out an inspection activity are the following:

a) Ethical conduct.

b) Integrity.

c) Impartiality.

d) Fair presentation. → The obligation to report truthfully and accurately.

e) Professionalism.

f) Confidentiality.

g) Evidence-based approach. → Method for reaching reliable and reproducible conclusions in a systematic process.

Scope of Safety Oversight

In ANS will include all the (7) areas described in Chapter 3:

a) AIS. Inspection activities should be performed to aeronautical information services, to verify compliance with [CAA AERONAUTICAL REGULATIONS APPLICABLE TO AIS], including the management of the AIS provider, the training process and maintenance of competence of the technical staff of the service provider among other aspects that may impact safety, including the establishment of a quality system for AIS.

Scope of Safety Oversight

b) ATS. Inspection activities should be carried out on air traffic services, including the headquarters in charge of ATS management and the TWR, APP and ACC units to verify compliance with the [CAA AERONAUTICAL REGULATION APPLICABLE TO ATS]. The inspection should include verification of compliance with personnel licensing regulations and ATS training plans. Additionally, it must be ensured that the ATS provider implements procedures to systematically verify the evaluation of the performance of its operations and the management of fatigue in its personnel.

This is done through the establishment, for example, of safety reporting, analysis and follow-up systems (including ATS incidents), periodic and systematic safety reviews, as well as safety risk assessments against ATS system changes related to safety and potentially dangerous activities for civil aircraft.

Scope of Safety Oversight

c) CNS. The inspection process should be carried out on the Communications, Navigation and Surveillance (CNS) services to verify compliance with the [CAA AERONAUTICAL REGULATION APPLICABLE TO CNS], including the verification process for navigation aids, maintenance of CNS equipment, human resource management including the training of technical personnel among other elements that may have an impact on operational safety.

Scope of Safety Oversight

d) PANS-OPS. The inspection activities should be carried out on the provider that designs the instrument flight procedures, to verify compliance with the [CAA AERONAUTICAL REGULATION APPLICABLE IN PANS-OPS], including the management of the PANS-OPS provider, the training process and maintenance of the competence of technical personnel, and all those aspects that may have an impact on operational safety. Additionally, it should be evaluated that the service provider submits the instrument flight procedures to a periodic review (including validation) to ensure that they are adapted to changes in criteria and continue to respond to user requirements and that service providers comply with process quality control measures (including check for obstacles).

Scope of Safety Oversight

e) MAP. The inspection activities should be carried out at the aeronautical MAP services, to verify compliance with the [AAC AERONAUTICAL REGULATION APPLICABLE TO MAP], including the management of the MAP provider, the process of training and maintaining the competence of technical personnel of the service provider among other relevant aspects.

Scope of Safety Oversight

f) MET. The inspection must be carried out at the meteorological service for international air navigation to verify compliance with the [AAC AERONAUTICAL REGULATION APPLICABLE TO MET], including the management of the MET provider that encompasses the process for compliance with the training plan, maintenance of equipment, the required coordination with other air navigation services dependencies, equipment calibration, among other aspects that may have an impact on safety, including the establishment of a quality system for MET services

Scope of Safety Oversight

g) SAR. The inspection activities must be carried out on the search and rescue services to verify compliance with the [CAA AERONAUTICAL REGULATION APPLICABLE IN SAR], including the management of the SAR provider, the training process, the coordination of the SAR services with search and rescue regions or adjacent service providers, among other aspects relevant to the service.

Scope of Safety Oversight

The CAA could use a scope that includes the following components:

a) Documentation.

b) Procedures.

c) Human Resources: personnel, licenses, training.

d) Material resource: equipment, materials, environment.

The categorization described should serve as a reference to the CAA surveillance areas of each State and guide the structure of the inspection process.

Determination of the number of inspectors necessary for safety oversight

The elements that could guide the methodology used to calculate the number of INSPECTOR ANS needed could include, but not be limited to:

a) Development and amendment of regulations.

b) Development and amendment of guidance material (procedures, circulars, directives, policies, checklists, among others).

c) Surveillance programme and plan (number of inspections to be completed).

d) Time assigned to the training of the ANS inspector.

e) Inspectors' vacations.

f) Periods of disability/illness (estimated).

Determination of the number of inspectors necessary for safety oversight

The calculation of the number of inspectors, through the developed methodology, is normally carried out through a document (form, template, software) independent of the Air Navigation Services Inspector Manual, since this calculation could be updated more frequently than the manual itself.

Note – The ANS INSPECTOR Manual could reference the document used to calculate the number of inspectors.

ANS Oversight Programme

The oversight programme is a statement of the surveillance activities that are carried out in a given period for each ANS. The Surveillance Programme details the frequency with which inspection activities must be carried out at ANS providers in order to exercise adequate supervision.

The surveillance/oversight programme should define the minimum number for each type of inspection that should be carried out on each of the air navigation services.

A broader ongoing framework that’s covers a wider range of areas and activities, may include multiple surveillance plans.

ANS Oversight Programme

ANS Area	Minimum number of scheduled inspections per year (SI)	Minimum number of unscheduled inspections per year (UIP)
AIS-AIM	3 **SI**	1 **UIP**
ATS	3 **SI**	2 **UIP**
CNS	4 **SI**	2 **UIP**
PANS-OPS	1 **SI**	1 **UIP**
MAP	1 **SI**	1 **UIP**
MET	2 **SI**	1 **UIP**
SAR	1 **SI**	1 **UIP**

Annual Surveillance Plan

The annual surveillance plan establishes the surveillance activities that are carried out in a determined period and usually comprises a period of twelve months.

This plan should be prepared once a year, on a date stipulated by the CAA of each State. With its approval, the CAA must ensure the allocation of the resources required for its proper execution.

The frequency with which inspection activities must be carried out at ANS providers will depend on what is established in the ANS surveillance programme.

The CAA must control the progress of the annual surveillance plan and be capable of showing that, at a minimum, all the programmed activities have been fulfilled; and if not, provide a detailed and valid justification, as well as the mitigation measures implemented (e.g. rescheduling inspections for subsequent months).

Annual Surveillance Plan

In the planning of surveillance activities, the size, nature and complexity of the supplier to be inspected must be considered; likewise, other criteria should be considered for the planning of activities, such as:

a) Number of operations of the air traffic services unit.

b) Number of non-conformities found in previous monitoring activities.

c) Number of ANSP technical personnel.

d) Number of ATS incidents in the last period, identifying if there was another ANS involved in them.

Annual Surveillance Plan

e) Number and complexity of CNS air navigation systems.

f) Number of SAR organizations and personnel.

g) Date of the last inspection carried out.

h) Number of flight procedure designs, RNAV procedures and conventional procedures designed and published in the last year.

i) Number of MET offices and personnel.

j) Number of dependencies, services and AIS-AIM/MAP personnel.

k) Progress in the CAP from previous inspections.

Annual Surveillance Plan

In addition to the scheduled inspections included in the Annual Surveillance Plan, unscheduled inspections may be carried out. These will consist of specific inspections to an ANS provider to assess specific aspects of safety that are considered necessary to review.

The CAA must define prior notification periods to the ANS provider for each inspection to be carried out, taking into account the type of inspection in question. In some cases, due to the type of inspection, prior notification to the ANS provider is not required.

Appendix 1 to Chapter 8 – Template for Annual Surveillance Plan

ANNUAL SURVEILLANCE PLAN														
AUTHORITY				YEAR			DATE							
		MONTH												
UNIT	TYPE OF INSPECTION*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	OBS

Filling Guide:

1. In the "Authority" field, enter the official name of the CAA ANS surveillance area.
2. Indicate the year for which the annual surveillance plan is prepared.
3. Write down the preparation date of the annual oversight plan.
4. Name the ANS unit to be inspected (eg: XXXX Airport MET Office, XXX Radar Control Centre).
5. Establish the type of inspection to be carried out in each agency in accordance with the provisions of section 8.10.
6. Highlight the month in which each of the inspections of the annual surveillance plan would be carried out. It can be indicated by marking the selected month with an "x", or by highlighting the space for the month in question with another colour.
7. "OBS" is the space to record any additional information pertinent to each inspection. 8.10.

Inspection Plan and its Objective

The Inspection Plan presents the activities to be carried out during an inspection in an orderly and structured manner. This document serves as a guide for the inspector and the supervised supplier on the activities that will be carried out during an oversight activity.

Its main objectives are:

a) Provide the members of the inspection team with a systematic work plan for each area to be inspected.

b) Give clarity to the inspected ANSP about the activities that are going to be developed.

c) Make the members of the inspection team responsible for the efficient performance of the work entrusted to them.

d) Serve as a chronological record of surveillance activities.

e) Facilitate the review of the work to the lead inspector.

Inspection Plan and its Objective

The lead inspector should prepare, in coordination with the team of inspectors, the Inspection Plan that will contain all activities in detail and chronologically, including:

a) The opening meeting.

b) The closing meeting.

c) Interviews.

d) Visits to ANSP facilities that will be carried out during the inspection.

The Inspection Plan should be sent to the ANSP well in advance of the activity, preferably together with the inspection notification, and may be adjusted in coordination with the ANS provider.

The Inspection Plan should be part of the records of the ANS surveillance process.

Types of inspections in safety oversight

One of the most important tasks for the success of the safety oversight process is to properly define the types of inspections that are going to be carried out in the ANSPs.

The task of defining the type of inspection can be complex, since there are multiple variables to consider. However, it has been identified that this selection should be based on two approaches that coexist, which are:

a) Approach based on planning, which is based on the criteria described in section 8.7, referring to the annual surveillance plan.

b) Scope-based approach, which is based on the inspection protocols described in section 8.11.

Types of inspections in safety oversight

The types of inspection, according to the approach based on planning, are:

Approach	Type of Inspection	Description
Planning	Scheduled	Inspection activity included in the annual surveillance plan. Requires prior notification to the ANS provider.
Planning	Unscheduled	Inspection activity that has not been included in the annual surveillance plan, but that is considered necessary to ensure the safety of the ANSP. Requires prior notification to the ANS provider.
Planning	Random	Inspection activity that is generated without prior notification to the ANSP. It could be carried out, among other reasons, for reports of situations that would cause a high impact on operational safety.

Types of inspections in safety oversight

The types of inspection, according to the scope-based approach, are:

Approach	Type of Inspection inspección	Description
Scope	Full Protocol	Inspection activity that covers all the questions included in the inspection protocol.
Scope	Specific protocol	Inspection that is carried out based on a protocol of questions specifically designed for said inspection. It could focus on a specific topic, for example: the ATC training programme, the navaid maintenance programme, to name a few. The specific protocol follows from the full protocol.
Scope	Follow-up	Inspection whose main objective is to verify compliance with the Corrective Action Plan (CAP) referred to a previous inspection activity.
Scope	Request for specific information	More than an inspection, it is a request directed specifically to gather information on a topic of interest. The attention and response of the SIE is mandatory, and in case of not being attended, it could generate an inspection of greater scope.

Types of inspections in safety oversight

In addition to the types of inspections already described, a separate mention should be made of two types of inspections, which are:

a) Virtual inspection. This type of inspection is carried out through virtual communication platforms (eg. Zoom, Microsoft Teams), and allows the inspection team to carry out surveillance activities remotely, when for reasons of force majeure it is not possible to attend in person.

b) Desk inspection. This type of inspection does not require an on-site visit by the inspection team. It is limited to reviewing the documentation of the service provider, in terms of manuals, procedures, letters of agreement, to name a few. The advantage of this type of inspection is that it can be carried out with few resources and can serve as preparation for larger face-to-face activities.

Filling Guide:

1. Indicate the date on which the inspection would take place.
2. Write down the name of the lead inspector and the rest of the inspectors that make up the inspection team. In the "Remarks" column it could be noted, for example, if any of the inspectors are receiving their on-the-job training (OJT).
3. In the scope, the type of service and the unit that is inspected must be detailed.
4. The notes section could be used for any information that is useful for the development of the inspection.
5. In the "Inspection" section
   - 5.1 Date/time: refers to the date and time that the described activity will start.
   - 5.2 Activity: state whether it is the opening meeting, documentation review, interviews, equipment verification, field visit, closing meeting.
   - 5.3 Head: indicate who is in charge of leading the activity, either the lead inspector or one of the inspectors.
   - 5.4 Comments: write down the comments that should be taken into account for each activity.
6. Indicate the name of the person who prepares the inspection plan, his/her signature, and the date on which the plan is prepared

INSPECTION PLAN		
DATE		
INSPECTION TEAM		
Lead Inspector		*Remarks*
Inspectors		
SCOPE:		
REMARKS:		

INSPECTION DETAILS			
Date/Time	Activity	Head	Comments

PREPARED BY:	SIGNATURE	DATE

Inspection protocols for ANS safety oversight

The CAA of each State is responsible for developing its own inspection protocols, based on its national regulations. These guides should contain information that supports the work of the ANS Inspector and allows the objectives of safety oversight to be achieved.

These tools or work aids constitute the standardized format used by the ANS Inspector to verify the compliance of service providers with regard to the applicable regulations, in each of the areas of Air Navigation Services.

Inspection protocols for ANS safety oversight

The information that an inspection protocol should contain could include the following data:

a) Header with the name and logo of the CAA that carries out the ANSP safety oversight.

b) General information such as:

- Name of the service provider subject to inspection.
- Date.
- Name of the ANSP executive/director/head.
- Name of the lead inspector.
- Name of the members of the inspection team.

Inspection protocols for ANS safety oversight

c) Protocol Question number.

d) Regulatory reference for each question.

e) Protocol questions.

f) Answer to the question in Yes or No format.

g) Guidance for review of evidence for the ANS INSPECTOR on each question.

h) Implementation status.

i) Evidence, notes, comments.

It is important to note and remember that each protocol question is based on a national regulation requirement.

[CAA LOGO]	[CAA NAME AND ANS OVERSIGHT AREA]

CHECKLIST [INSERT NATIONAL APPLICABLE REGULATION]

1. ANSP NAME:	2. Date:
3. Address:	
4. Name of the Director/executive/Chief:	
5. Lead Inspector:	
6. Inspectors: • A • B • C • D	

7. Chapter 1/A/I… [Insert name of chapter national applicable regulation]

8. N²	9. Reference	10. Protocol Question	11. Response	12. Guidance for evidence review	13. Status of Implementation	14. Evidence /Notes/ Comments
001	[Insert reference to regulation requirement]	[Insert protocol question]	❑ Yes ❑ No	[Insert guidance for ANS INSPECTOR]	❑ Satisfactory ❑ Non Satisfactory ❑ Not applicable	
003	. .					
005	. .					
007	. .					
009	. .					
011	. .					
013	. .					
015	. .					

7. Chapter 2/B/II… [Insert name of chapter national applicable regulation]

Inspection protocols for ANS safety oversight

Inspection protocols should be reviewed and amended in the following circumstances:

a) Changes in the national regulation due to amendments to the ICAO Annexes.

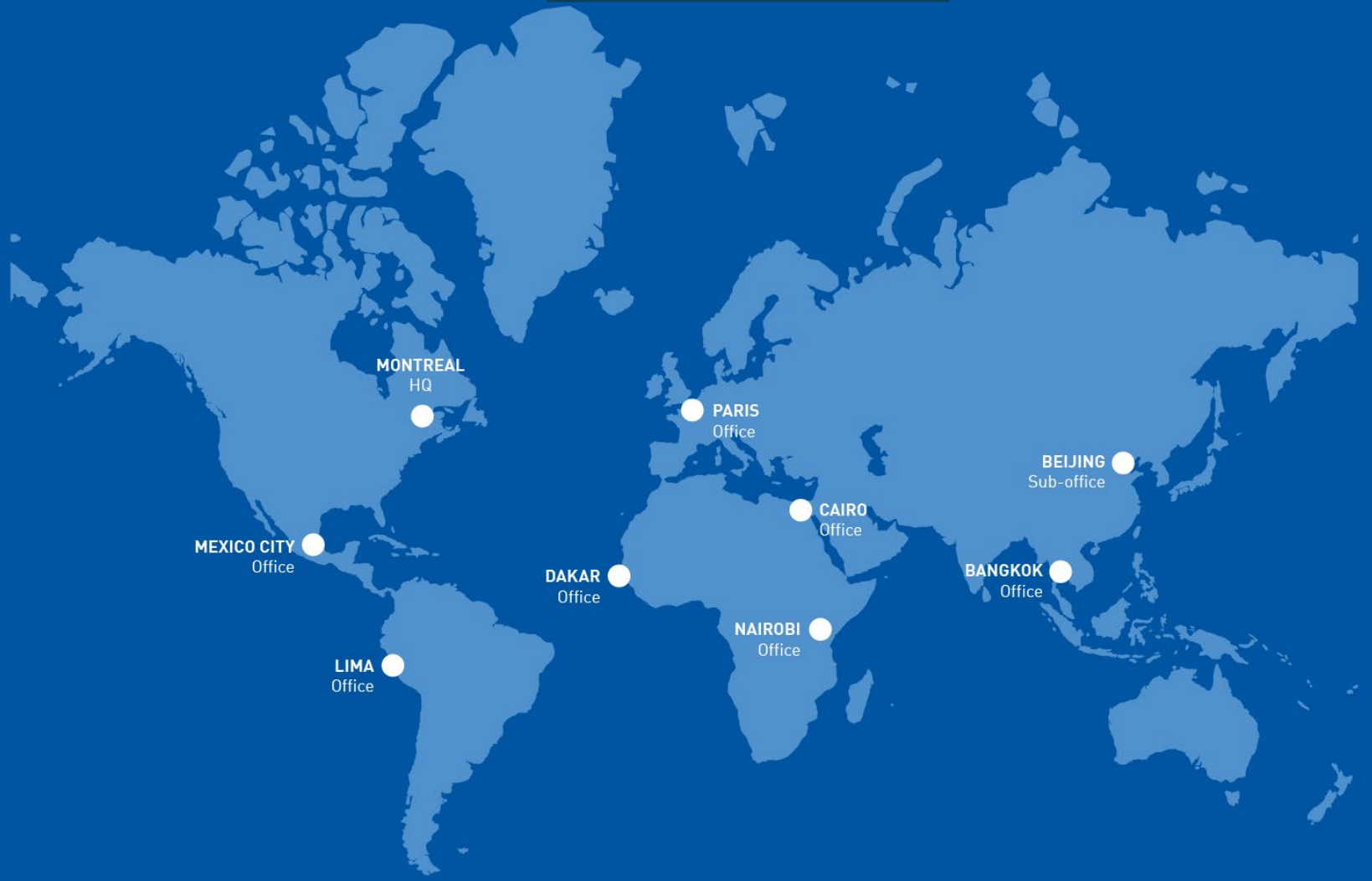
b) Changes in the national regulation due to amendments proposed by the CAA.

c) Modification in the wording, scope, guide, or any element that affects the protocol questions.

Any change in the inspection protocols should be communicated to the ANSPs well in advance, before being implemented.

It is important to have an internal system that allows for version control, so that the ANS Inspector always use the updated version of the inspection protocols.

Questions?



THANK YOU

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