canso TRANSFORMING GLOBAL ATM PERFORMANCE

Improving Business Performance through Auditing

A CANSO Standard of Excellence

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Introduction

This CANSO Standard of Excellence has been designed to support ANSPs to carry out efficient and effective internal auditing. The Standard of Excellence Improving Business Performance through Auditing comprises:

1. Objectives of Auditing

Audits are an integral part of most management systems and are usually a requirement of external standards (e.g. ISO 9001 or ISO 14001) and external regulatory framework (e.g. SES, ICAO). The objectives of audits include:

- Identifying improvement opportunities, risks and non-conformities – see also chapter 5 below
- Supporting the people in the business to deliver their goals and objectives
- Measuring the performance of business processes (efficiency, effectiveness and conformance)
- Assessing the company's ability to meet customer requirements, and internal and external rules and regulations
- Facilitating the process of identifying and sharing best practice

2. Audit Programme

Audit programmes usually cover a period of one or more years and give an overview of the audits an ANSP plans to carry out in a given period of time.

An audit programme should be designed to:

- Carry out audits as efficiently and effectively as possible
- Enable timely planning
- Integrate several requirements in one audit programme
- Be flexible enough to cater for unexpected/ planned events/ issues

The responsibility for the audit programme and scope must be clearly defined; usually this responsibility lies with the Quality and/or Safety Manager. The audit programme should consider:

- Scope of the certification
- External audit programmes (e.g. regulatory requirements such as ICAO, EASA SES, NSA and the chosen certification organisation)
- Business plan and business objectives
- Business wide or regional initiatives
- Risks (safety AND business risks)
- Lessons learned from the previous audit programme
- Customer Feedback
- Performance with respect to Key Performance Areas (KPAs according to SES II Performance Scheme) and internal Key Process Indicators (KPIs)

2.1 Integrated audit programme

An integrated audit programme is a holistic approach to assessment of business performance. Auditing no longer focuses on the quality system in isolation but now considers the organisation's management system as a whole.

This involves careful consideration of all established policies and critical requirements governing the organisation and ensuring that these are appropriately covered within the period of the audit programme. For an ANSP, these may include:

- Customer requirements
- ISO 9001, ISO 14001, ISO 27001 and other standards
- ICAO, SES, EASA and other aviation regulations
- Any other performance models identified (e.g. EFQM, CANSO Fitness Check)
- Own policies, strategic and business goals of the ANSP

2.1.1 Benefits and drawbacks of integrated audit programmes:

The benefits of an integrated audit programme include:

- Better use of resources leading to reduction of audit staff hours each year
- Single point of management for all audit findings
- Complete picture of the ANSP performance against regulatory requirements and business objectives
- Greater opportunity for more meaningful analysis of findings
- Topics are covered once rather than being revisited from multiple perspectives
- Eliminates possibility of conflicts between audit focus areas
- Wider expertise and professional background in the audit team
- Better learning and co-operation across the organisation, because of involvement of more disciplines

An ANSP considering an integrated audit approach must also consider the following drawbacks:

- High requirements for auditor competence – Increased need for detailed understanding of an array of business and regulatory disciplines
- Initially (until auditor competence is gained by individuals), larger audit teams may be needed to cover all areas (therefore savings may not be realised at the beginning)
- Maintaining broad auditor competence becomes more difficult (and has limits!)
- Audit planning phase is more complicated
- Individual audit scopes may become unmanageable
- There is a critical size for audits. Due to the inclusion of many different requirements or interfaces auditors may have difficulty in concentrating on relevant topics

2.2 Communication

The high level audit programme should be commonly agreed by management. It is important for management to gain an understanding of the audit plan and to have the opportunity to ask questions or give input.

When communicating the audit programme consider:

- How it will be received in the organisation
- What the key objectives/messages are
- Giving managers support in communicating and promoting the program within their line of responsibility
- Providing a simple format (e.g. spread sheet)
- Highlighting the support needed from the individual manager/department (e.g. access to individuals, resources, materials, support from operational experts, etc.)
- Explaining the process (e.g. next steps to be taken, when and how invitations will be sent, opening meeting, agreement of findings)

Also consider that different groups of ANSP staff, such as ATCOs, engineers, MET and administrative staff, may need different forms/types of communication and different levels of detail.

3. Audit Activities

Auditing activities should include the following steps and illustrated below and further explored in this chapter:

3.1 Adding Value through Audits

The meaning of the term "Adding Value" can vary considerably between auditors, auditees, organisations, etc. For the purpose of this Standard of Excellence, it describes the audit activities that help everyone improve the business i.e. that provide useful information to the business in pursuit of continuous improvement.

Auditing should be considered a means of helping the organisation identify and improve the effectiveness and efficiency of its practices in pursuit of the organisations objectives. This is different from simply identifying compliance or otherwise to those practices. The difference between these two approaches may be regarded as the difference between facilitation and observation.

Value added auditors do not just ensure the business is doing things right, they also validate that the right things are being done. For example, this means not just ensuring that processes are being followed, but that they are appropriate for the needs of the business and that those processes contribute to customer satisfaction, however that is defined or measured.

Value may be added during internal audits by triggering a discussion on best practices, making suggestions for improvement, and using voluntary reporting. Caution must however be exercised to avoid using too much time for such discussions instead of focusing on the audit objective.

There are many different styles of value added auditing (see 'Different Auditing Approaches' below) but they all have the same objective: **aiding the business to effectively and efficiently achieve its objectives**. When selecting an approach it is essential to use the right one to achieve the objectives of the audit.

3.2 Planning Audits

3.2.1 Defining audit objectives, scope and criteria

The audit objectives should be clearly defined and understood by all involved. Examples of objectives are:

- Compliance to requirements (e.g. SES, ICAO, ISO)
- Identifying gaps between stakeholder expectations and the product/service provided
- Identifying improvements
- Identifying risks
- Identifying if process steps are adding value (can administrative steps be eliminated?)
- Effectiveness of processes in reaching desired outcomes
- Reviewing interfaces or processes or departments
- Accountabilities
- Appropriateness of performance indicators and metrics (metrics drive behaviour)
- Compliance to procedures

The scope of the audit should clearly describe the areas, subject, processes and individuals involved in the audit. It may be useful to consult key stakeholders when setting the audit scope, as they may provide useful insight into areas of consideration.

The audit criteria describes which internal and/or external requirements (includes policies, business objectives, procedures, processes, standards' requirements) are being audited.

It is important to remember that the audit is being carried out for the benefit of the business so the auditee should also be considered the customer of the audit.

3.2.2 Different auditing approaches

The audit approach should consider what the audit is aiming to achieve and select an appropriate method as outlined below. People in the organisation responsible for planning and staffing audits (usually the quality and/or safety manager) should consider that there can be a tendency for auditors to rely on the approach to auditing that they are most familiar with. It is essential to discuss and document the auditing approach with the auditor in advance.

An auditor may choose to use a combination of audit approaches in a particular audit area (e.g. process based and information based approaches in auditing of a core process).

3.2.2.1 Process based approach

A process audit is an examination of results to determine whether the activities, resources and behaviours that cause them are being managed efficiently and effectively. Processes generate results; a process audit must <u>establish</u> whether the results are being <u>generated by an effectively managed process</u>.

The process based approach:

- Identifies stakeholder expectations
- Identifies what objectives are required to be achieved
- Identifies the factors affecting success
- Identifies what the process is for achieving the objectives
- Verifies that the controls in place are consistent with the success factors
- Verifies the competences and capabilities required to deliver the process outputs
- Verifies that staff competence and process capability is being assessed effectively

- Identifies what results are being achieved
- Identifies how outputs are being measured
- Verifies the integrity of the results
- Verifies that performance, efficiency and effectiveness are reviewed
- Verifies that improvement in performance, efficiency and effectiveness is pursued

The process based approach is suitable when auditing the core ANS-process(es) in an organisation and gives information on the operational performance. **For further guidance, see Annex 1 Process Approach sample audit questions**.

3.2.2.2 Information/transactional based approach

An Information or Transaction audit is the examination of a process by tracking information or transactions through an end to end process (Input to Output or the reverse). This is sometimes known as a paper trail or traceability audit. This type of audit is often used to review quality records or to assess the flow of information within a process.

An information/transactional based approach:

- Identifies what tasks are being performed
- Identifies who performs the task
- Identifies whether tasks bring added value
- Identifies time spent on adding value versus process time in total for the task
- Identifies where inputs come from and outputs go to
- Validates the status of information at each stage of a process
- Validates the completeness of the information at each stage
- Determines how traceable the information flow is within the process
- Identifies the interdependencies within the process
- Identifies the trigger points for performing tasks
- identifies how a task is performed

This approach may be useful when auditing ATCO training records and checking competency, as traceability is a key focus. Equally, it may be used to assess the use of an enterprise tool such as SAP. **For further guidance, see Annex 3 Transactional based sample audit questions.**

3.2.2.3 Business objective approach

The purpose of this type of audit is to determine if all the relevant sections/ areas of a function/ department/ business area have a cohesive set of objectives and goals that are adequately cascaded.

Each objective should have an associated measure and these should be visible at all relevant areas of the business. The audit seeks to establish how measures relate to the objectives. This can be examined from either a top down or bottom up approach.

A Business objective approach:

- Identifies strategic/ business area objectives
- Determines if objectives are clearly and adequately cascaded
- Identifies accountabilities and responsibilities
- Identifies whether process(es) have been defined to deliver the desired objective(s)
- Assesses understanding of the objectives
- Confirms local measures support strategic goals
- Confirms results are being assessed to drive improvement

This approach may be useful when auditing safety accountabilities in an ANSP, which are typically cascaded down from top management throughout the organisation. It can also be useful for auditing the future SES II Key Performance Areas, which will typically be broken down to process objectives within the ANSP.

3.2.2.4 Compliance approach

The purpose of this type of audit is to determine whether activities/ operations are being performed to a prescribed set of rules or governance requirements. This type of audit is often performed by third party auditors when assessing conformance to external standards or regulations. Internally this type of audit is a useful means of verifying that key processes are being performed in accordance with their prescribed documentation and that the operators are aware of both their existence and importance.

A compliance approach audit:

- Identifies what tasks are being performed
- Identifies who performs the tasks
- Identifies the procedures governing the tasks
- Identifies whether the procedures are being followed
- Identifies whether the person is trained to perform the task
- Verifies that the documentation is current
- Verifies that tools are current
- Verifies that input information is current
- Verifies that the working conditions are suitable
- Verifies that the personnel making acceptance decisions are authorised to do so
- Verifies maintenance of records

This approach may be useful when auditing the compliance to ICAO, SES or other external requirements. This approach can be helpful which preparing legal compliance overview documents, for example when preparing for ICAO-USOAP. **For further guidance, see also Annex 2, Compliance approach sample audit questions.**

3.2.2.5 Tips for adding value when auditing

- Understand the auditees expectations and the corporate culture
- Consider any specific concerns to be addressed
- Consider any safety or business risks
- Do a pre-evaluation of any requirements to make contact time more efficient
- Agree on an audit approach
- Select the audit team according to the objectives you want to achieve and the perceived acceptance of auditors by the auditees. Make sure the team are able to ask the insightful questions and effectively interpret the answers
- Allow enough time!
- Focus more on what you want to achieve and not on how you achieve it
  - That is focus more on the process and less on procedures. While documented procedures, work instructions, check lists, etc. are necessary for an ANSP to plan and control its processes, the driving force should be the process performance.
- Focus more on results and less on records
  - Formal records are necessary for an ANSP to prove that the processes and procedures are being followed and to meet some regulatory requirements. However the auditor should also be aware of other forms of evidence and give credit to these.

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3.2.3 Business Language (vs. QM-Language)

Careful consideration should be given to the language used during the audit process, in terms of business expressions and acronyms etc. including checklists, final report, and any communications during the audit process. Audit findings should be expressed using business language of the auditing parties to aid understanding and acceptance, not in quality management, safety management or environmental management specific terminology.

3.3 Carrying out audits

The following tools can be used and considerations made when carrying out audits:

3.3.1 Root Cause Analysis

Root Cause analysis is a class of problem solving methods which aim to identify the root cause of a problem or incident. A root cause analysis is based on the assumption that problems are best solved by attempting to correct, or eliminate, the underlying activities which created the visible situation; rather then just addressing the immediately obvious symptoms. By addressing the root cause, the likelihood of problem reoccurrence can be minimised. The following section describes two of the most commonly used methods for carrying out a root cause analysis that may be readily applied in the auditing environment. These are the '5 Whys' and 'Cause and Effect' methods.

3.3.1.1 The 5 'Whys'

When looking at audit results the understanding of why an issue exists is far more useful than simply being advised of the issue. This is illustrated in the example below:

Typical ANSP examples of 'Whats':

- System update doesn't match with the corresponding operational procedure
- Metrological department was not informed about changes on the TMA sector borders
- Wrong data is published in the AIP

Process for identifying root causes using the 5 WHY method

Examples of 'Whys':

- The system update doesn't match with the corresponding operational procedure because the validation team forgot to check if a procedure update was required. It was easy to forget without having a validation checklist.
- Metrological department was not informed about changes on the TMA sector borders, because the technical department was only focused on ATM needs, with ATM being the change owner. Neither the technical department nor ATM considered the required update of the MET-database, as procedures did not require complete system updates.
- Wrong data is published in the AIP because the hardcopy distributing system is different from the electronic system and there is no automatic data transfer. If the data will be delivered on hardcopy, there is a potential gap for data validation.

By repeatedly asking the question 'Why?' (five is a good rule of thumb), you can peel away the layers of symptoms which can lead to the root cause of a problem. Very often the apparent reason for a problem will lead you to another question. Although this technique is called the "5 Whys," you may

find that you will need to ask the question fewer or more times than five before you find the issue related to a problem.

Benefits of the 5 'Whys' includes:

- Helps identify the root cause of a problem
- Determines the relationship between different root causes of a problem
- One of the simplest tools; easy to complete without statistical analysis

The 5 Whys is most useful when problems involve human factors or interaction. It can be used in day-to-day business life.

Drawbacks of the 5 'Whys' includes:

- Can be irritating to auditees
- It can be difficult to find the correct depth of a problem

3.3.1.1.1 Example of how to use the 5 'Whys'

Problem Statement: Operations staff are using out of date procedures.

- **1. Why** is the staff using out of date procedures?
  - Because staff was unaware that a new version was available
- **2. Why** wasn't staff made aware of the new version?
  - Because the manager responsible for distributing documents to staff didn't distribute the new procedures as requested.
- **3. Why** didn't the manager distribute procedures?
  - Because he wasn't aware that he was supposed to
- **4. Why** wasn't he aware that he was responsible to distribute the new procedures?
  - Because he hadn't received adequate training on his duties and responsibilities as a manager
- **5. Why** hadn't he received the adequate training?
  - Because the senior manager failed to carry out the foreseen training plan before releasing the manager to duty.

Hence the new recommendation becomes:

- The senior manager needs to train his managers in a timely manner before releasing them for duty.

Caution:

- Beware of identifying a single causation – there may be a number of contributing causes
- There is a risk that the questioning may result in a wrong answer because an causation is being asserted (the audit partner may begin stating his feeling or opinion rather than facts)

If you want to avoid these problems, try modifying the questioning process as follows:

- What indication do I have that this cause exists? (Is it concrete? Is it measurable?)
- What indication do I have that this cause could lead to the stated effect? (Am I merely asserting causation?)
- What indication do I have that this cause actually contributed to the problem I'm looking at? (Even given that it exists and could lead to this problem, how do I know it wasn't actually something else?)
- Is anything else needed, along with this cause, for the stated effect to occur? (Is it self-sufficient? Is something needed to help it along?)

- Can anything else, besides this cause, lead to the stated effect? (Are there alternative explanations that fit better? What other risks are there?)

The point of these questions is to establish existence, necessity, and sufficiency. Keep asking these five questions for every cause, at every level of questioning. If you diagram all this, you will end up with a tree of causal factors leading up to the original problem. Some may be less important than others, but you will have a much more complete picture of the causes leading up to your problem. Even better, you may find a more important cause than previously considered. At the very least, you will have avoided the "straight-line causation" trap.

3.3.1.2 Cause and Effect

Cause and Effect Diagrams help you to think through causes of a problem thoroughly. Their major benefit is that they push you to consider all possible causes of the problem, rather than just the ones that are most obvious. They are also known as Fishbone Diagrams, because a completed diagram can look like the skeleton of a fish.

- Identify the problem:
  Write down the identified issue. Where appropriate identify who is involved, what the problem is, and when and where it occurs. Write the problem in a box on the right hand side of a large sheet of paper. Draw a line across the paper horizontally from the box. This arrangement, looking like the head and spine of a fish, gives you space to develop ideas.
- Work out the major factors involved:
  Next explore with the auditee(s) the major factors that may contribute to the problem. Draw lines off the spine for each factor, and label it. These labels may be the people involved with the problem, or systems, equipment, procedures, materials, external forces, etc. Repeat this process with each major factor to identify any minor factors. Once completed look for evidence to support each identified factor to aid the most probable cause to be addressed. Highlight these on the diagram.

Below is an illustration of a typical Cause and Effect Diagram

3.3.1.3 Examples of root cause categories

Having a standard set of root causes will enable meaningful analysis on an organisational level. The following example gives guidance on how an ANSP may choose to group their root causes.

Root Cause Group: **Process**
Sub-Groups:

- Not following process / procedure
- Unaware of process / procedure / requirement
- No defined process / procedure
- Process failure / capability
- Absence of process metrics / feedback
- External Processes influencing outcome

Root Cause Group: **Information/Material**
Sub-Groups:

- Poor information / material supplied
- Wrong information / material supplied
- Late information / material supplied

Root Cause Group: **People**
Sub-Groups:

- Operator capability
- External Interface
- Insufficient resource to meet demand

3.3.2 Benefits and Dangers of Checklists

When deciding upon the type and depth of audit check lists, the following benefits and dangers should be considered:

Benefits:

- The auditor and auditee can prepare better
- Helps to avoid duplication of audit activities / criteria in integrated audits (multiple audit standards/criteria) performed by audit teams of more than 2-3 members
- The auditee knows what to expect during the audit (if the auditor shares their checklist with the auditee)
- The auditor can check that the audit scope is covered in a systematic and comprehensive way
- Overview of the requirements can easily be kept
- Checklists help auditors for time management during the audit
- Checklists are especially useful for inexperienced auditors to help track requirements and keep the audit structured
- Checklists can be reused for later audits, allowing the auditor to track progress and plan the audit areas
- Phraseology can be carefully considered in advance and steered towards business language

Dangers:

- Auditors become highly reliant on checklists and fail to adequately understand the area being audited
- Auditors may lose their ability to audit intuitively based on the auditees answers

- Robotic audit style through reading through check list questions, auditees feel they're being examined (and may prevent the inexperienced auditor to clearly formulate / express his/her questions)
- Check lists being reused may be out of date, the same questions may be asked year after year (therefore no use of "generic" check-list is suggested)
- Checklists can become too detailed (fine thread rather than subject headings)
- Checklists become too prescriptive and inhibit the auditors ability to trace emergent threads

The following recommendations are provided for preparing checklists:

- Use subject headings instead of check lists for experienced auditors OR stay flexible when using checklists
- The results of external audits should be used to prepare internal audits (e.g. ICAO, NSA,e tc) in order to avoid duplication of findings/questions
- Consider overlaps in requirements (normative and regulatory) to make the audit as efficient as possible

Examples of typical check lists questions for different audit approaches can be found in Annexes 1 to 3

3.4 Post-Audit Tasks

3.4.1 Preparing, approving and distributing the audit report

Audit reports must be timely, supported by facts and evidence, objective, agreed between the members of the auditing team and the findings must be well documented.

There are three parts to a well documented finding:

- A record of the requirements against which the finding is identified
- The finding statement itself
- The audit evidence to support audit findings

The structure of the audit report should meet the needs of the users and could for example include:

- The auditors and audit partners
- Scope
- An executive summary which gives an overall assessment of the 'health' of the area being audited
- A statement of whether the area or activity reviewed conforms to the requirements placed upon it
- Any opportunities for improvement
- Any findings and areas of concern (ref to sec.5 below)
- Areas that may be considered "Best Practice"
- Information for future audit planning
- Areas that require follow up

The auditor must be the final author of the report and is responsible for the accuracy of the audit findings, more information can be found in Chapter 4. In the case of an audit team, the author should be the lead auditor. Targets for preparing, approving and distributing audit reports should be agreed during the audit closing meeting. Where it is possible, audit reports should be distributed to all of the parties involved within 2 weeks. Audit reports which are released and distributed long after the audit has taken place may be discredited or not given priority.

It is good if audit results are integrated / considered / communicated in the safety oversight process of the QMS/SMS and used for improvement of the QMS/SMS as well (even when the systems / audits are not integrated / combined).

3.4.2 Conducting audit follow-up

3.4.2.1 Timescales

The organisation should set clearly defined timescales for the completion of actions agreed during the audit activity. For external audits these are usually defined by the body performing the audit. It is common place in many companies that these timescales are also adopted for the equivalent internal audit finding categories.

However an alternative approach may be to consider the severity and impact of the audit finding when agreeing the target date for closure. A flexible negotiated approach (with defined boundaries) can help ensure agreement and co-operation of the action sponsor and will increase the likelihood of successful completion.

Example:
Process A has a Major non conformance raised against it and Process B has a Minor non conformance raised against it. Under existing company rules, Major non conformances must be addressed in 6 weeks and Minor non conformances must be addressed in 13 weeks.

Upon further investigation, Process A has a 6 month cycle and will not be run again for another 5 months and Process B has a monthly cycle and is due to run again in 2 weeks. With finite resource it clearly makes more sense to negotiate a more effective set of deadlines that reflect this based on resource requirements, available mitigation and risks to the business.

In order to help ensure that findings are completed as expected it is also recommended that any action with a timescale of greater then 2 months has a milestone plan agreed, with any individual milestone no longer than 2 months. If progress is then monitored against the milestones, the likelihood of successfully meeting the overall target date is improved.

3.4.2.2 Escalation Process

The timely closure of agreed actions is very important to the effectiveness of the audit process. However it is recognised that from time to time audit actions will not be addressed within the agreed timescales. This may due to any number of factors such as lack of resource, change of business priorities, recognition of need, etc. In order to manage such events a suitable escalation process should be established which can be used if agreement to address the issues cannot readily be obtained.

The following is an example of how an escalation process can be ensured:

Overdue by	**Action**
Before due date	Action owner reports expected overdue to auditor
0-1 wk	Auditor to follow up Action owner
1-2 wks	Auditor to escalate to Action owners Manager
2-3 wks	Auditor to escalate to Quality Manager to talk to Action owners Manager
3-4 wks	Quality Manager to escalate to next level of authority

4. Auditors

4.1 Responsibility/Accountability of Auditors

Auditors are responsible for:

Planning:

- Team Leader - Ensuring that the audit objectives, scope and criteria are clear and agreed with the sponsor prior to carrying out the audit
- Team Leader - Selecting and agreeing an audit approach
- Team Leader - Selecting the audit team
- Team Leader - Reviewing previous audit performance to determine key themes. This means that the audit team must have access to the required documents and reports
- Preparing audit check lists as required

Conduct:

- Team Leader - Ensure that the audit parties and audit sponsors requirements are fulfilled as agreed
- Gather consistent, reliable unambiguous evidence for findings (i.e. data that can only be interpreted one way)
- Facilitate the identification of root causes
- Remain impartial throughout the audit
- Team Leader - Provide an audit summary
- Team Leader - Agree findings at the closing meeting
- Team Leader - Confirm confidentiality requirements

Post audit tasks:

- Team Leader -Timely completion and distribution of the audit report
- Work with the audit partner for the successful resolution of findings
- Analysis of root causes as an input for planning future audits

Based on these responsibilities, the auditor is accountable for:

- Team Leader - Correct and transparently derived audit conclusions
- Complete records

4.2 Competence of Auditors

Auditors need to be able to effectively assess:

- Operational and quality effectiveness
- Business risks
- Business and/or process controls
- Process and business efficiencies
- Opportunities to eliminate inefficiencies
- Corporate governance effectiveness (compliance to regulations), specifically:
    - Relevant ICAO annexes and documents
    - SES-Common Requirements
    - ANSP relevant national regulations

Team Leader (Lead Auditor) should be competent (applied theoretical knowledge and practical experience) to manage the overall process of an integrated audit, performed by a team of auditors / experts in different fields.

4.2.1 Verification of auditor competence

Even if you were once a competent internal auditor, if you only audit once or twice a year you are in danger of losing your auditing skills, hence the competency of auditors must be verified on a regular basis

Competence can be verified through:

- Observing an auditor
- Customer satisfaction feedback (see chapter 'Customer Satisfaction')
- Verifying findings (e.g. are references correct, are the findings useful and articulated correctly)
- Analysing audit results (e.g. by root causes per auditor)
- Interviewing auditors to identify gaps in knowledge

4.3 Education, training and audit experience

An ANSP should set standards for education, training and audit experience of auditors according to the needs of the organisation. This should include knowledge of the management systems in place and the planned scope of audits. There should also be an established means of verifying that these standards are met.

Examples of such could include:

- Successful completion of an IRCA approved auditors course
- Familiarisation with ISO19011
- Familiarisation with this guidance document

Furthermore, an ANSP may consider enhancing the capabilities of auditors by activities such as:

- Cross ANSP or FAB auditor exchange programmes
- Exchange programmes with other organisations
- Shadowing third party auditors
- Peer assessments
- Secondment to critical areas of business

4.4 Audit Teams

Audit teams must be established in such a way that all the competencies required are covered. Operational, Safety or other experts can be utilised in the audit team, therefore the audit team is not necessarily made up only of auditors.

Whilst competencies need to be available to cover the planned audit scope, it must be mentioned that audit teams should be kept as small as possible to avoid intimidating audit partners.

An ANSP may also consider including key suppliers or customers in the audit team (e.g. when auditing ATM include the technical department and check interfaces).

4.5 Conflict Management

To avoid conflicts during audits, the following guideline should be followed:

- Always explain the audit process and approach before beginning the audit
- Clarify any misunderstandings during the audit
- Always be objective when writing audit findings and ensure that sufficient evidence supports the finding
- Be aware of the atmosphere, environment and mood of audit parties

The potential for conflict is highest when the auditee does not accept the findings. These conflicts can best be resolved by:

- presenting facts to support the finding
- explaining how the conclusion was drawn
- seeking agreement
- having the necessary support of managers towards the auditing process

The auditor can also communicate in the middle of the audit with the auditee to share draft findings in such a way that the auditee understands the concern and has an opportunity to clarify before the finding is written or finalized. Try to find a way to "find the deficiency together"; this way the auditee is less likely to dispute the finding later. For example, using language like "I'm having trouble determining how party X will know that Step Y has been completed … is there any evidence we can find of how the completion of that step in the process is assured?" If there is a lack in the evidence and you still see risk after the explanation, then the auditee will be prepared to hear that in the findings. Sometimes you can even work the conversation so that they verbalize the omissions themselves.

5. Audit findings

Traditionally, findings are classified as:

- non-conformance
  - major
  - minor
- improvement opportunities
- observations

Alternatively, findings can be classified as:

- **risks** - a situation which if left unaddressed may result in a failure of the process (addressed by correction, corrective and/or preventive action)
- **opportunities** - a situation identified where changes to the process/ activity may result in an improvement the process output (quality/ cost/ time)
- **best practice** (identification of Exceptional Performance or Best Practice that may be propagated within the business. i.e. a formal action to do something is identified and agreed. (note good practice should still be recorded in the report when witnessed)

The latter classification has more value added approach rather than just considering conformity.

Audit findings can be resolved in one of three ways, these being:

- **Corrections** - Action to eliminate a detected nonconformity. It is immediate action focused to eliminate the consequences of the findings and is only to be used for isolated incidents.
- **Corrective action** - Action to eliminate the cause of a detected nonconformity or other undesirable situation.
- **Preventive action** - Action to eliminate the cause of a potential nonconformity or other undesirable potential situation. Focus of value added auditing.

5.1 Risks and Opportunities

In common business language, audit findings can be classified as risks or opportunities to aid their understanding and acceptance.

5.1.1 Risks

Risks are categorised by assessing both the Likelihood and the Implication of the observation.

Likelihood – Probability of occurrence. This is independent of how often the activity/ process occurs. This is an assessment of how likely a failure will occur each time the process/ activity is performed.
Implication/Consequence – Impact on ability of process/ activity to deliver its objective. E.g. Catastrophic – Complete failure, Insignificant – No perceived impact
Timescale for action should be determined on the above assessment and how often the process occurs.

When evaluating risks it is important to understand that the risk is of deliverable not being achieved, or services not being provided!

The category "None" is where agreement is reached that the likelihood of occurrence and or the implication of occurrence is so insignificant that no mitigation is necessary.

5.1.2 Opportunities

Opportunities are categorised by assessing both the Benefit and the ease of effort required to address the observation

Benefit – This is usually assessed in terms of Quality, Cost and Time against the objectives of the process/ activity being assessed.

Ease – This is a measure of the effort/ resource level required to implement the opportunity (Cost). May be in terms of manpower/ money/ materials/ etc.

Timescale for action should be determined on the above assessment and how often the process occurs.

The category "None" is where agreement is reached that the potential benefits of the opportunity are outweighed by the level of effort in terms of costs, resources, etc that the improvement will not be undertaken.

6. Trending / Analysis

Analyses of the results of previous audits should be provided to auditors for planning and carrying out succeeding audits. Those results may include identifying strengths and weaknesses of the organisation or of individual units.

Analyses can be carried out across functions, processes or geographical areas. Auditors should maintain knowledge of such analyses throughout all phases of the audit process.

Clear categorisation of root causes is fundamental to such an approach. Examples of root causes can be found in chapter 3.

Results of analyses could further be included in future audit programmes and be presented in the management review as a input for quality planning.

Audit results may be presented in a risk picture to help the organisation set priorities and understand key areas for improvement.

6.1 Performance of Audit Programme

In order to assure that audit findings support the ongoing needs of the business and the management of audit findings is effective, key measures should be established for the audit program. These should be reviewed periodically between scheduled audits.

Below are some examples of the types of measures that could be considered:

- Action closure – Actual performance against planned (will help determine realism of agreed target dates)
- Report of Open actions, trend showing improving/ worsening (will help determine if adequate resource is being used to address issues)
- Report of Overdue actions by area/ action owner (will help to identify priorities)
- Analysis of Customer satisfaction results (will provide indication that audit process is adding value and is effective)
- Analysis of root causes (will help provide information on areas of concern to drive business wide improvements, future focus for audits, etc)

6.1.1 Customer Satisfaction

In order to ensure that the auditing process is seen to be adding value and delivering the objectives of the audit programme, customer satisfaction should be sampled periodically.

It is recommended that no later then 2 weeks after the publication of the final audit report, someone other than the auditor should record the views of the audit sponsor &/ or auditee(s).

The following are potential question that may be asked:

- Was the audit valuable?
- Did the auditor address any concerns you expressed prior to the audit?
- Was sufficient notice given prior to the planning of this audit?
- Were you involved in the planning of this audit?
- Did the auditor take steps to identify the root causes of issues?
- Did the auditor demonstrate an understanding of the area being audited?
- Was the audit report completed and issued in a timely manner?
- Were all issues reported identified at the point of origin with the auditee (or auditees, for example in case of interface issues)?
- Were all findings clearly and concisely expressed?
- Was agreement reached on the type of the findings?
- Was the audit conducted in a professional and respectful manner?
- Will the audit findings be useful in making improvements in your organization?
-

7. Supplier Audits

General auditing principles in this Standard of Excellence also apply to supplier audits. When planning supplier audits you should consider whether they can be carried out in cooperation with internal departments or other ANSPs. Joint supplier audits may be of particular interest for common strategic suppliers to save each ANSP individually carrying out its own audit.

8. Alternative Audit Methods

Apart from the audit methods already described in detail in this Standard of Excellence, alternative audit methods may be considered. Examples of these alternatives are briefly described below:

- Desktop audits, useful for document reviews and high level compliance audits
- Process assessments
- Video conferences, useful for auditing regional airports
- Self assessments, such as the CANSO ANSP Fitness Check

9. Further guidance and reference material

- CANSO Safety Management System Implementation Guide
- ISO 19011

Annex 1

Example of a Process flow to be audited	Example of **Process** approach audit questions
	What is the overall objective of the process? Who can raise a safety incident? What training/ guidance is available? What are the required capabilities? How are these assessed? How is the time of the incident recorded? Are any incidents not recorded? Why? How are these captured? Addressed? What training/ guidance is available for WM to determine if incident should be supported? What are the required capabilities? How are these assessed? Incidents not supported, are these analysed? Are actions taken to drive improvement? How is WM judgement checked? Analysed? What is the criterion to determine an MOR? What is the ratio of MORs to observations? Is this as expected? Are these analysed? Actions tracked? Driving improvement? What are the implications of those that need a notification? Guidance/ Training available? Are notifications raised within 30 minutes? How are these tracked? What constitutes notified? Who should be notified? Are these analysed? What are the requirements for an initial investigation? Training/ guidance available? Does this happen within 24hrs? How is this tracked? Is this analysed? Implications if over 24hrs? Are actions tracked and driving improvement? How is a unit investigator appointed? How is competence assessed? Currency approval? What are the requirements for a unit investigation? Training/ guidance available? Does this happen within 5 days? How is this tracked? Is this analysed? Implications if over 5 days? Are actions tracked and driving improvement? Is the process achieving the overall objectives? What records are maintained? Where? How?

Annex 2

Example of a Process flow to be audited	Example of **Compliance** approach audit questions
	Is there a procedure for this process? Who can raise a safety incident? What training/ guidance is available? How is the time of the incident recorded? Is the incident recorded using form 123? Is form 123 under change control? Is the latest version of the form in use? Is the form passed to the Watch Manager? Is there evidence to show the procedure is being followed? What training/ guidance is available for WM to determine if incident should be supported? What are the required capabilities? How are these assessed? What is the criterion to determine an MOR? Is there evidence to show the procedure is being followed? What is the criterion to determine if a notification is required? Are notifications raised and Unit management advised within 30 minutes? Is the notification recorded using form 234? Is form 234 under change control? Is the latest version of the form in use? Is there evidence to show the procedure is being followed? What are the requirements for an initial investigation? Training/ guidance available? Does this happen within 24hrs? How is this tracked? Who are the results passed to? What happens to forms 123 & 234? Is there evidence to show the procedure is being followed? How is a unit investigator appointed? How is competence assessed? Currency approval? What are the requirements for a unit investigation? Training/ guidance available? Does this happen within 5 days? How is this tracked? Is there evidence to show the procedure is being followed?

Annex 3

Example of a Process flow to be audited	Example of **Transactional** approach audit questions
	Who can raise a Safety incident? How is the time of the incident recorded? How is the incident raised? What are the details that must be recorded? What happens to form 123? What alerts the Watch Manager that a safety incident has been raised? How does the WM determine if the Safety incident should be supported? If not supported what is the process? What happens to form 123? Who determines if it is an MOR or Observation? What is the criterion to determine an MOR? How is decision recorded? What is process for Observations? Where do they go? What information is required? What happens to form 123 Who determines if a Notification is required? What is the criterion to determine if notification is required? Are notifications raised within 30 minutes? What constitutes notified? Who should be notified? How do you know they have received and understood notification? What happens to form 123? What happens to form 234? What triggers the need for an initial investigation? What are the required outputs from an initial investigation? What guidance is available? Does this happen within 24hrs? How is this tracked? What happens to forms 123 & 234? Who is the Unit Investigator? How are they notified that an investigation is required? What are the requirements for a unit investigation? What is the output from the investigation? Does this happen within 5 days? How is this tracked?

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- NATA Albania
- National Air Navigation Services Company (NANSC)
- NATS UK
- NAV CANADA
- NAV Portugal
- Naviair
- Netherlands Antilles - Curaçao ATC (NAATC)
- Nigerian Airspace Management Agency (NAMA)
- Office de l'Aviation Civile et des Aeroports (OACA)
- ORO NAVIGACIJA, Lithuania
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- Saab AB
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- SITA
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- U.S. DoD Policy Board on Federal Aviation
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Correct as of 30 June 2011. For the most up-to-date list and organisation profiles go to www.canso.org/cansomembers