EUROPEAN ORGANISATION
FOR THE SAFETY OF AIR NAVIGATION

EUROCONTROL

ESARR ADVISORY MATERIAL/GUIDANCE DOCUMENT
(EAM/GUI)

<u>EAM 5 / GUI 4</u>

ESARR 5 AND RELATED SAFETY OVERSIGHT FOR ENGINEERING AND TECHNICAL PERSONNEL UNDERTAKING OPERATIONAL SAFETY-RELATED TASKS

SAFETY REGULATION COMMISSION

F.2   DOCUMENT CHARACTERISTICS

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Apart from the new table, no other contents have currently been modified. However, it is intended to produce a fully revised version of EAM 5 / GUI 4 to provide NSAs with guidance on the safety oversight of ESARR 5-related requirements for engineering and technical personnel undertaking operational safety-related tasks.</td></tr>
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<tr><td colspan="2">Bogdan BRAGUTA</td><td>+32 2 729 91 67</td><td>DGOF/SRU</td></tr>
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<tr><td align="center">Safety Regulation Unit
EUROCONTROL
Rue de la Fusée, 96
B-1130 Bruxelles</td><td align="center">Tel: +32 2 729 51 38
Fax: +32 2 729 47 87
E-mail: sru@eurocontrol.int
Website: www.eurocontrol.int/src</td></tr>
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F.3   DOCUMENT APPROVAL

The following table identifies all management authorities who have approved this document.

AUTHORITY	NAME AND SIGNATURE	DATE
Quality Control (SRU)	*signed by Daniel Hartin* (Daniel HARTIN)	21.03.2006
Head Safety Regulation Unit (SRU)	*signed by Peter Stastny* (Peter STASTNY)	21.03.2006
Chairman Safety Regulation Commission (SRC)	*signed by Ron Elder* (Ron ELDER)	21.03.2006

Note: For security reasons and to reduce the size of files placed on our website, this document does not contain signatures. However, all management authorities have signed the master copy of this document which is held by the SRU. Requests for copies of this document should be e-mailed to: sru@eurocontrol.int.

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F.4   DOCUMENT CHANGE RECORD

The following table records the complete history of this document.

EDITION NUMBER	EDITION DATE	REASON FOR CHANGE	PAGES AFFECTED
0.01	10-May-04	Creation – First working draft 0.01	All
0.02	01-Sep-04	Comments from ASP WG incorporated. Check for remaining editorials.	All
0.1	09-Sep-04	SRU quality check. Document sent to SRC for formal consultation.	All
1.0	12-May-05	Document released following consultation and formal approval by the SRC (RFC No. 0426).	All
1.1	06-Feb-06	Review to check consistency with Single European Sky and ESARR 1 requirements.	New Appendix B
1.2	03-Mar-06	New version produced after SRC consultation (RFC No. 602).	2, 7
2.0	21-Mar-06	Document formally released.	-

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F.5 CONTENTS

EAM 5 / GUI 4 – ESARR 5 AND RELATED SAFETY OVERSIGHT FOR ENGINEERING AND TECHNICAL PERSONNEL UNDERTAKING OPERATIONAL SAFETY-RELATED TASKS

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F.6   EXECUTIVE SUMMARY

The previous versions of EAM 5 / GUI 4 were produced before the approval of ESARR 1 and the entry into force of the Single European Sky (SES) Regulations.

As such, their enactment has necessitated a full review of the document in order to ensure its consistency with this new regulatory material.

As a first step in this review process, the Safety Regulation Commission (SRC) has produced this edition of EAM 5 / GUI 4 to include a new table (Appendix B) with guidance on the criteria for the assessment of compliance with ESARR 5 for engineering and technical personnel undertaking operational safety-related tasks. This table replaces the former highlevel checklists included in previous versions of the document.

The table is primarily intended to provide NSAs with guidance to support the development of their strategy to verify the implementation of ESARR 5-related requirements in the context of the certification and on-going oversight of Air Navigation Service Providers (ANSPs) against the Common Requirements established in Commission Regulation (EC) 2096/2005. As such, the table is also referred to in EAM 1 / GUI 5 'ESARR 1 in the Certification and Designation of Service Providers'.

Apart from the new table, no other contents have currently been modified. However, it is intended to produce a fully revised version of EAM 5 / GUI 4 to provide NSAs with guidance on the safety oversight of ESARR 5-related requirements for engineering and technical personnel undertaking operational safety-related tasks.

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1. GENERAL INTRODUCTION

1.1 Introduction

1.1.1 Purpose

The purpose of this document is to provide guidance to Designated Authorities, ATM service providers/operating organisations and individual personnel on the regulation of ATM Services' Personnel in accordance with ESARR 5.

ESARR 3 sets out requirements for safety oversight and safety management, the principles of which may be applied to all aspects of ATM, including the regulation of ATM personnel. ESARR 5 takes the general principles of ESARR 3 and applies them specifically to the regulation of ATM personnel whose tasks, within ATM, are identified as being safety-related.

This guidance does not offer only one solution to the implementation of ESARR 5. The responsibilities allocated to the Designated Authority (identified in ESARR 3 as the 'safety regulator') and the service provider, within the limitations of complying with ESARR 5, may differ between States depending on the regulatory culture. This document provides general guidance and, where appropriate, specific definitions and indications of what is required for compliance.

1.1.2 Scope

The scope of this document is confined to the safety regulatory aspects of one element of the ATM system, i.e. people (engineers and technical personnel undertaking operational safety related tasks) and the way the competence of such personnel is maintained. It excludes the subjects of security, regularity and efficiency when those are not directly safety-related.

It also excludes the regulatory aspects of procedures and equipment elements from the ATM system.

This document does not contain all the necessary guidance on the provision of a safety oversight function. In particular, ESARR 1 and SRC Policy Document 3 should also be used, as well as the other ESARRs and guidance material.

ESARR 5 establishes general requirements relating to all ATM personnel who have safety related tasks. This may involve operational support staff who are not licensed or certificated and whose function is not yet defined, e.g. air traffic control assistants. ATM personnel may also include those persons who are involved in the provision of flight information services from flight information centres or aerodromes and the associated engineering services.

ESARR 5 sets out requirements for the regulation of Air Traffic Control Officers (ATCOs), Student Air Traffic Control Officers, engineering and technical personnel. It defines the responsibilities of civil Designated Authorities, civil ATM service providers and/or operating organisations and specific individual responsibilities of ATCOs and Student ATCOs.

Military authorities must also comply with ESARR 5 or have equivalent schemes for regulating ATM personnel. In this context, 'equivalent' is interpreted as meaning a scheme which provides the same safety assurance and is subject to the same safety oversight as required by ESARR 5.

In a safety regulatory regime, there are two major regulatory elements which need to be operated: 'Rulemaking' and 'Safety Oversight'. This document only deals with the Safety Oversight[1] functions of the Designated Authority, even if some necessary statements refer to rulemaking.

Within this document by 'Operating Organisation' is meant any Organisation that falls within the jurisdiction of the National ATM safety regulatory body and who is responsible for the provision of engineering and technical services supporting Air Traffic Management (ATM) services.

Under this definition therefore, the ATM service provider itself would be the 'Operating Organisation' when providing its own technical support. If engineering and technical support services are not provided by the ATM service provider, the 'Operating Organisation' would be a separate entity.

Therefore, within the document the term 'ATM service provider/operating organisation' is used to show that the same provisions apply to both organisations ensuring technical services. This means that any ATM service provider who sub-contracts the provision of technical services to an outside organisation shall have in place a robust and efficient Safety Management System (SMS). The service provider's SMS will ensure that the operating organisation fulfils it requirements to maintain and manage the safety aspects of its activities within the ATM system.

1.1.3 Safety Oversight Functions

The safety oversight of ATM personnel is the responsibility of the Designated Authority. ESARR 5 is less prescriptive in its requirements for engineering and technical personnel and offers more opportunity for operating organisations and the Designated Authority to develop means of compliance.

As with all safety regulatory oversight there should be:

a) An initial safety oversight during the implementation stage, where the providers demonstrate compliance with the requirements or have their own means of compliance assessed by the Designated Authority. As a formal notification of compliance, it may be appropriate for the Designated Authority to issue approvals;

b) On-going safety oversight, where continuing compliance is assessed. On-going safety oversight may include the assessment of changes associated with the continued development of training and competence processes and procedures.

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[1] Safety Oversight is "The function undertaken by a designated authority to verify that safety regulatory objectives and requirements are effectively met" (Refer to SRC POLICY DOC 3- Ed. 0.03)

1.2   Context

ESARR 5, paragraph 5.3 'Requirements for Engineering and Technical Personnel Undertaking Operational Safety Related Tasks', requires the Designated Authority to issue safety regulations and to ensure adequate and appropriate safety regulatory oversight. These safety regulations would be expected to have a similar scope to those for ATCOs, including training requirements and the assessment of competence.

There are no ratings associated with engineering or technical staff. For the purposes of safety regulatory oversight, Designated Authorities and/or operational organisations would be expected to develop specific qualifications similar to ratings to indicate the scope of the tasks engineering and technical staff may undertake. Although ESARR 5 in its application to engineering or technical personnel, does not specifically require "approval" or "auditing", it would seem appropriate for the Designated Authority to apply a similar regulatory style to the regulation of all ATM personnel. There is no requirement for the issue of licences or certificates of competence to engineering or technical personnel. However, ESARR 5 does not prohibit this as a means of compliance. Where there is a monopoly provider, the training and competence of engineering and technical personnel could be managed within the SMS.

1.2.1   International Obligations

States who are signatories to the EUROCONTROL Convention have an obligation to comply with EUROCONTROL ESARRs. It is in the interests of Member States to comply with ESARR 5, as it forms the basis for the safety management of ATM personnel and for the harmonisation of training and competence standards. States who are also signatories to the Chicago Convention are obliged to comply with the International Civil Aviation Organisation's (ICAO) Standards and Recommended Practices (SARPs).

ICAO has no requirements relating to ATM engineering and technical personnel. ESARR 5, for the first time, establishes regulatory requirements to ensure engineering and technical personnel are appropriately trained and competent in their tasks. Although the professional qualifications of engineers and technical personnel may be internationally recognised, those associated with specific tasks within ATM are not. States who wish to develop bi-lateral or multi-lateral agreements for the mutual acceptance of engineering or technical qualifications within ATM will have to define these tasks. Where such agreements are in place, the Designated Authorities in the States concerned will almost certainly have to take responsibility for the administration of a formal system of licensing or certification of competence.

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1.2.2 National ATM Framework for the Regulation of ATM Personnel

To satisfy their international commitments to implement ICAO SARPs and EUROCONTROL ESARRs, States will require a framework of supporting national legislation. This may include provisions for the establishment of an entity known as the 'ATM safety regulator', whose functions would include the safety regulatory oversight of all ESARRs, including ESARR 5, and rulemaking activities to support safety regulatory activities. Legislation may also be required to support the issue of licences to ATM personnel who do not already hold a licence. Legal provisions for issuing approvals should be considered where States will use this as a method of indicating compliance with ESARR 5 and with their own State's specific requirements. The Designated Authority's staff may also require specific legal authority to gain access to ATS units, en-route navigation aid sites etc. and to carry out audits or inspections.

There may be situations where services which are not provided by an ATM service provider fall under the requirements of ESARR 5. For example, air traffic controller initial training courses may be conducted by independent training organisations and equipment manufacturers may also provide training courses on specific equipment. The provider of air traffic services may also use outside contractors to complete tasks which fall within the scope of ESARR 5. It is important that any legislation supporting ESARR 5 gives the Designated Authority sufficient scope to regulate all ESARR 5 requirements, regardless of the organisations involved.

1.2.3 Regulatory and Service Provision Context

1.2.3.1 Regulatory Culture

The ESARR 5 requirements provide considerable scope to enable individual States to implement them in a way sympathetic to their own historical and cultural requirements. The use of existing regulations as a basis for compliance with ESARR 5 may result in the style of regulation whereby the Designated Authorities impose their own prescriptive procedures on ATM service providers and inspect for their compliance. A more satisfactory separation of safety regulation and service provision may be achieved by the Designated Authority requiring the ATM service provider to develop its own procedures compliant with ESARR 5 and to submit them for approval. These styles of regulation are at opposite extremes and the actual style chosen could be a compromise between the two.

In determining how they will implement ESARR 5, Designated Authorities should take into account the existing arrangements for the provision and regulation of ATM services. These should include the:

a) Existing arrangements for the training and assessment of competence, including, where appropriate, the issue of licences;

b) Number and size of the ATM service providers;

c) Capacity and expertise of the ATM service providers to develop and regulate, internally through their SMS and internal audits, their own means of compliance;

d) Need to develop prescriptive requirements where it is assessed that ATM service providers cannot comply with c) above;

e) Areas of ATM service provision and regulation where the expertise in auditing or inspecting for compliance lies within the ATM service provider, operational organisation or Designated Authority;

f) Requirement to meet obligations under the EUROCONTROL Convention to implement and enforce ESARR 5.

1.2.3.2 *Separation of Safety Regulation from Service Provision*

The requirement to separate safety regulation from service provision will require both parties to agree, within the limitations of complying with ESARR 5, who will be responsible for the various processes involved in the regulation of ATM services personnel. The service provider will clearly be responsible for ensuring the competence of its personnel. However, the part of the ATM organisation which historically conducted examinations may become the safety regulator. Issues such as who will be responsible for examinations or assessments at training centres and operational units need to be resolved at an early stage.

Although tasks associated with the regulation of ATM personnel may already be identified within the existing regulatory system, it may be necessary to more clearly define these tasks. This could be in the form of a task analysis or job description, however, whichever system is chosen, the regulatory responsibilities within that role must be clearly defined. The specifications of the personnel who will undertake the tasks, in respect of their knowledge, skills and experience, should also be defined.

It is recognised that it may be necessary to phase in the separation of safety regulation from service provision over a period of time. Roles may have to be retained for a period of time to allow the transfer of knowledge, skills and the gaining of experience. Such a phased implementation should be the subject of an implementation plan clearly indicating where the responsibilities for regulation lie at each stage.

1.2.3.3 *Interface Arrangements*

The interface between the safety regulator and service provider, in respect of the regulation of ATM personnel, should also be defined. Interface arrangements should include the formal working arrangements that facilitate initial and on-going safety oversight, such as the arrangements for auditing or inspecting. These arrangements should be documented but should not restrict in any way the Designated Authority's right to conduct regulatory activities associated with ESARR 5. There should also be national arrangements in place for routine administrative actions associated with licensing and other documentation required from the service provider.

Separating safety regulation from service provision, whilst having positive safety implications, will almost inevitably lead to the closing of the previous formal and informal information channels. Interface arrangements should be put in place that take account of the problems associated with this separation, such as formally establishing regular meetings at management level. These meetings should address all items which will impact upon the regulation of ATM services personnel. For example, there should be briefings by the providers on long-term strategies and planned changes to equipment or procedures and briefings by the safety regulator on proposed changes to international or national requirements. There should also be arrangements for the mutual review of regulated activities such as training and assessment of competence.

Agreements on the division of responsibilities for the regulation of ATM services personnel, the implementation of ESARR 5 and interface arrangements will form the basis of the initial safety oversight and the assessment of the compliance with ESARR 5 by the ATM safety regulator. Prior to the implementation of ESARR 5 and the separation of safety regulation from service provision, the procedures for on-going safety oversight must also be agreed. The number and scope of these procedures will depend on the regulatory style to be adopted by the safety regulator.

1.2.3.4   Regulatory Styles

Where the safety regulator sets prescriptive requirements, e.g. setting and conducting examinations, assessments of competence and inspecting for compliance, the regulatory processes will have to be carefully integrated into the daily activities of service provision. This regulatory style requires considerable resources in terms of skilled staff and administration. Where the safety regulator permits the service providers to develop their own procedures, there will be an initial safety oversight audit to determine if they satisfy the requirements. Following this, the on-going safety audits will determine if the provider is complying with its procedures and if the procedures are being reviewed and updated to ensure that they continue to meet the requirements. In general, this latter method of regulation does not require such careful integration with the provider's activities and is more efficient in what is achieved for the resources available.

1.2.3.5   Safety Oversight

The safety oversight associated with ESARR 5 implies that the safety regulator will have to make provisions to:

a) Issue licences;

b) Approve personnel to conduct examinations or assessments;

c) Depending on the regulatory style, develop prescriptive requirements, or assess service providers' procedures for compliance with ESARR 5;

d) Audit or inspect ATS units, training centres and other sites for compliance with prescriptive requirements or means of compliance;

e) Assess the management structure of ATM service providers, operating organisations and training centres to determine if they can support compliance with prescriptive requirements or with their own proposed means of compliance.

1.2.3.6   Institutional Arrangements for the Regulation of ATM Personnel within ATM Service Provision

The service provider/operating organisation should put in place a management structure that it can demonstrate will support compliance with ESARR 5 and any additional requirements of the Designated Authority. Tasks within this structure should be defined, including responsibilities and accountabilities. A flow chart of the management structure should demonstrate how accountability flows from the ATM personnel conducting operational tasks to higher management and ultimately to a single entity within the ATM service provider's organisation/operating organisation.

ESARR 5 requires the ATM service providers to have procedures in place to ensure that their ATM staff meet certain requirements. It is the role of the ATM service provider/operating organisation to develop procedures to meet these requirements and to demonstrate compliance to the Designated Authority. These procedures should be fully documented, including a flow chart of the processes involved.

Under a safety oversight process the State may accept the assurance of the ATM service provider/operating organisation that the personnel under a competence scheme have the required knowledge, skills and experience. This requires a degree of trust and confidence in the daily application of the approved procedures and of the integrity of the ATM service provider/operating organisation's staff. Such arrangements are only satisfactory if the service provider/operating organisation rigorously monitors the application of its internal processes. The provider/operating organisation should not rely on audits carried out by the Designated Authority to determine if its procedures are satisfactory and appropriately applied, but should conduct regular in-depth internal audits of all its activities. In the case of operating organisations other than ATM service providers, the service provider should be assured through its SMS that the operating organisation has put in place processes and procedures in accordance with those established by the SMS. Designated Authorities should consider requiring service providers/operating organisations to apply quality control processes to their documentation and administrative processes, particularly those which support ATC licensing and any associated medical certification.

ESARR 5 does not define any tasks associated with the regulation of engineering or technical personnel. Within EUROCONTROL Member States there is no common definition of 'engineer' or 'technician'. However, whatever educational achievement or professional status these titles imply about the post holder, their individual tasks within the ATM service provider's organisation must be defined. Such a definition should indicate the scope of their activities in respect of the equipment or systems they will be maintaining. For example, they may be trained and competent to monitor equipment tolerances and undertake routine maintenance tasks, but not in in-depth fault diagnosis or repair of component parts of the system. For regulatory purposes it would be advantageous if the tasks undertaken by engineering and technical personnel are divided into a limited number of categories. Engineering and technical personnel who maintain en-route area navigation aids and remote radars should also be included in the service provider's institutional arrangements.

It is not the role of ESARR 5 to transfer the entire responsibility for the regulation of ATM personnel from the State to the ATM service provider/operating organisation. It is up to individual States to determine within the ESARR 5 requirements where the responsibilities will lie.

1.2.3.7 Capability of the ATM Service Provider

When considering separating safety regulation and service provision, the State will need to decide upon the extent to which the ATM service provider/operating organisation and the Designated Authority will be directly involved in the daily regulation of ATM personnel. It is this division which will largely determine what capabilities the ATM service provider will require in terms of the ability of its staff to develop procedures and their competence to implement them. The Designated Authority and the ATM service provider should co-operate in defining the knowledge, skills and experience required by such personnel.

The ATM service providers/operating organisations, in States where ATM personnel regulation will be by prescriptive requirements, may not require the same capabilities as service providers/operating organisations in States where the regulation is solely by safety oversight. Prescriptive regulation may not be sustainable in the long term, as separation of safety regulation from service provision will almost inevitably lead to a polarisation of skills within the separated disciplines. It is the service providers who recruit, train and assess the competence of their ATM personnel and inevitably it will be their staff that are most proficient in the day-to-day skills required for service provision. The Designated Authority's staff will become more distant from operational expertise and familiarity with equipment and procedures. Prescriptive regulation can lead to problems associated with the credibility of the Designated Authority's staff and to a duplication of resources and effort.

Where State decides to implement safety oversight to regulate ATM personnel, the service provider/operating organisation will become responsible for some, if not all, of the regulatory tasks which were previously undertaken by the State. In this case, it may be necessary for there to be a transition period during which the Designated Authority's staff transfers their knowledge and skills to the ATM service provider/operating organisation through training and shared responsibilities until such time as the ATM service provider/operating organisation can take over full responsibility.

ESARR 5 provides for the Designated Authority to approve persons to conduct examinations or assessments. It is not recommended that ATM service providers' personnel are appointed to conduct any examinations or assessments on behalf of the regulator except as a transitional arrangement. Because the examiner or assessor is not a member of the Designated Authority's staff, difficulties may arise concerning liability should a decision taken by the examiner or assessor be subject to a legal challenge and subsequently be proven to be incorrect. It is more appropriate for the service provider to take responsibility for examinations or assessments of competence, with the Designated Authority auditing the process for compliance. Whatever the arrangements, it should be the Designated Authority's responsibility to ensure that all personnel involved in the process are aware of their functions, responsibilities and accountabilities.

1.2.4 Non-punitive Approach

Designated Authorities should provide sufficient guidance and, where appropriate, assistance to the ATM service providers/operating organisations including the training of personnel in order to implement ESARR 5. Where the Designated Authority identifies a non-compliance, it should work with the ATM service providers/operating organisations to agree a methodology and a timetable with the aim of achieving compliance to the satisfaction of both parties.

Decisions made by the Designated Authority in respect of a non-compliance by engineers and technical personnel should be made without prejudice and subject to challenge under an appeal process. Any process which the service provider/operating organisation puts in place to withdraw such ATM personnel from operational duty should also be non-prejudicial. The Designated Authority and the service providers/operating organisations should co-operate to ensure that the investigation and decision making process are conducted as swiftly as possible.

1.3   Regulatory Capacity

1.3.1   Organisation

The implementation of ESARR 5 will require the Designated Authority to have a management structure and staff to implement and maintain a safety oversight of ESARR 5. The structure, organisation, qualifications and experience of its staff will depend on the regulatory style adopted by the Designated Authority. It is therefore impossible to give definitive guidance on the way in which the Designated Authority should be structured, except that the Designated Authority should not, as a rule, undertake tasks that can be better addressed by the ATM service providers/operating organisations. The extent to which regulatory tasks can be devolved to the ATM service providers/operating organisations will be the decision of individual States.

1.3.2   Regulatory Procedures

The Designated Authority should be viewed as an integral part of the ATM industry. Although its safety responsibilities are paramount, its regulatory procedures should be developed in conjunction with the rest of industry. For example, it must be recognised that the ATM service providers/operating organisations have to manage their businesses efficiently and economically and to the satisfaction of their customers. Against this consideration the Designated Authority must balance the safety of the air traffic services provided to aircraft operators and ultimately the safety of their passengers. Requirements for ATM personnel, implemented by the Designated Authority as part of its rulemaking responsibilities, may affect organisations that are not directly regulated under ESARR 5. To ensure that the wider implications of rule changes are not overlooked, it may be appropriate to consult with selected organisations within the aviation industry before implementing new requirements.

When regulation and service provision are separated, the Designated Authority must ensure that it does not become detached from the realities and problems associated with ATM service provision. It must keep up-to-date with progress in, for example, the development of new equipment and the use of simulators in advanced training, to ensure that out-of-date requirements do not hold back progress to the detriment of industry. Equally, service providers may become remote from the development of international requirements which will affect their operations and for which a considerable lead-in time to achieve the change is required. To alleviate such problems, the Designated Authority should form co-operative links with the service providers and ATM personnel representatives to ensure that the industry as a whole is able to move forward in an orderly and economical manner.

Regulatory procedures should be clearly documented and indicate what is required of the service provider/operating organisation and their personnel. It should be clear to those undertaking safety oversight and those being regulated what the purpose of the regulation is, what it is supposed to achieve, and the decision-making criteria. It cannot be expected that ATM personnel will have access to regulatory documentation or be able to interpret complex requirements. It is therefore important that every effort is made to present the requirements to be met by individual ATM personnel in a simple format, separate from any complex regulatory documents, which clearly indicates their regulatory responsibilities.

1.3.3 Resources

The resources required by the Designated Authority to maintain a safety oversight of ESARR 5 will depend on the extent to which they maintain a direct role in the daily regulation of safety and how much responsibility is given to the service provider. Where the regulator does not have the expertise, for example in the specialist areas of training techniques, human factors and administration, it may be appropriate to use personnel who have the requisite expertise in these areas but not necessarily in air traffic management control (operationally or technically), or to require organisations to obtain accreditation from other nationally recognised authorities.

1.3.3.1 Staffing

The prescriptive style of regulation may necessitate the Designated Authority to require its staff to maintain operational competence and to satisfy any on-going experience requirements. It would be inappropriate for the Designated Authority's staff to assess the competence of ATM personnel if they themselves are not current or competent in the task.

As indicated previously, the separation of safety regulation from service provision will lead to the polarisation of skills where it is the service provider who has the expertise in day-to-day service provision. In a safety oversight style of regulation, the Designated Authority's staff would require expert knowledge and previous experience of the tasks they were responsible for regulating, but not current operational competence. Their task would be to ensure that the service provider's/operating organisation's staff were correctly applying the procedures for ensuring competence, rather than making a direct assessment themselves.

ESARR 5 places responsibility on the service provider/operating organisation for ensuring the competence of their ATM personnel. It would seem more in keeping with the philosophy of separating safety regulation from service provision for the service provider/operating organisation not to rely on the safety regulator to assess the competence of its ATM staff. The Designated Authority's staff could then be employed in assessing the appropriateness of the service provider/operating organisation's processes and procedures for meeting ESARR 5 requirements and auditing for compliance.

1.3.3.2 Training

The Designated Authority's staff who will be regulating ESARR 5 will require training to undertake their regulatory duties. Duties may involve inspection, examining and/or assessing and auditing. Because of the scope of ESARR 5 and its requirement to ensure that ATM staff are appropriately trained and are competent in their tasks, the Designated Authority's staff will require on-going training to ensure they remain current with progress made in operational ATS procedures and ATM equipment. Where a prescriptive style of regulation is implemented and staff conduct examinations/assessments, continuation and refresher training may be required. Some areas that should be considered for more detailed training are:

a) ESARR 5 and national requirements for the regulation of ATM personnel including the supporting national legal framework;

b) The responsibilities and accountabilities of those implementing ESARR 5;

c) Safety management;

    d) Quality management;

    e) Recognised means of compliance with ESARR 5;

    f) Auditing/inspection techniques;

    g) Questioning techniques;

    h) Inter-personal and negotiating skills.

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2. SAFETY OVERSIGHT

2.1 Introduction

Regulation by safety oversight gives the service provider/operating organisation considerable flexibility in the way it satisfies ESARR 5 and national requirements.

The regulatory processes considered in this chapter are the:

a) Initial safety oversight of the implementation of ESARR 5. This process will confirm that the providers of ATM services have in place the appropriate processes and procedures and that these satisfy the regulatory requirement;

b) On-going safety oversight which is intended to verify continuing compliance with ESARR 5.

Both these processes will make use of safety regulatory audits and inspections.

2.2 Key Processes in the Safety Oversight of ESARR 5

As indicated previously, there are a number of elements which are critical to meeting the requirements of ESARR 5 in a regulatory culture where safety regulation is separated from service provision. ESARR 5 defines the roles of the Designated Authority, service provider, operational organisation and their ATM personnel, but does not indicate the regulatory arrangements by which these requirements are to be met. Before any safety oversight system can be implemented, such arrangements must be established and clearly documented, so that there can be no doubt as to which organisation or person is responsible for the tasks within the regulatory system by which the State will comply with ESARR 5.

Some of the organisation's procedures for the compliance with ESARR 5 will be addressed under the SMS, such as the competence of ATM engineering and technical staff. Other organisations that are not involved in the provision of operational air traffic services or technical support to ATS, e.g. where training centres are independent from the service providers, may be subject to approval by the Designated Authority, in accordance with national requirements, and be required to operate their own quality management system.

The safety oversight of service providers'/operational organisations' compliance with ESARR 5 should consider the:

a) Structure for managing the processes and procedures by which they will satisfy the ESARR 5 requirements;

b) Processes and procedures submitted by them, to determine if they will generate the outcome for which they are designed;

c) Organisation's internal systems, such as internal audits of the safety management system (SMS) and the quality control of documentation;

d) Processes by which the organisation determines that a change is required, including those associated with identified problems and routine updating and amendment, and how it manages those changes.

Under a SMS, the identification of failure modes and the mitigation of risk associated with procedures and equipment is a relatively straightforward task. Assessment of human failure modes involving the interaction between individuals and between individuals and their environment is not. The mitigation of risk associated with the tasks undertaken by ATM personnel currently relies on appropriate training and assessment of competence. Although still an immature science within the human factors discipline, consideration should be given to requiring providers and other organisations that fall within the scope of ESARR 5 to consider human failure modes within their ATS systems. ATM staff who takes individual responsibility for training and competence assessment should be aware of the human factors associated with their regulatory roles.

2.3 Key Elements of SMS Compliance

The key elements to be considered during the safety oversight of that part of a SMS which relates to the compliance with ESARR 5 will be:

a) The organisational structure which indicates the mechanisms for complying with ESARR 5, including the roles and responsibilities of the personnel involved;

b) Internal verification mechanisms including: monitoring the frequency and causes of incidents, assessing feedback from ATM engineering and technical personnel and statistical analysis of the results of training and/or competence assessment;

c) Internal risk assessment and mitigation processes that demonstrate that changes to, for example, training courses will not have an adverse effect on safety.

2.4 Categories of Safety Oversight Activity

There are two basic categories of safety oversight activity associated with the safety oversight of ESARR 5:

a) The first category includes assessing the organisational structure and the procedures by which the service provider or operating organisation will comply with ESARR 5;

b) The second category is the on-going operation of the processes and procedures in a) above. This will include the outputs from the internal verification and risk assessment and mitigation processes.

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3.   INITIAL SAFETY OVERSIGHT

3.1   Introduction

3.1.1   General Considerations

The initial safety oversight of ATM service providers/operating organisations involves activities which go far beyond the assessment and acceptance of documentation.

Although the importance of the latter elements should not be overlooked, initial safety oversight also includes safety regulatory audits and inspections of processes and the examination of evidences and final products.

3.1.2   Rationale

The outcome of the ATM safety regulator's initial safety oversight will be a decision as to whether or not the service provider's/operating organisation's organisational structure and processes will ensure compliance with ESARR 5. This may also be the case under national requirements for engineering and technical personnel where the Designated Authority has decided to regulate through a licensing or certification process. Separate approvals for unit training plans and personnel may not be required where these are contained within the service provider's/operational organisation's SMS and the regulator issues a safety regulatory approval for the SMS. For example, approval of ATM personnel to conduct examinations or assessments may be dealt with under the licence scheme or under the provider's SMS.

States should consider regulating organisations who do not operate under a safety management system, but fall within the scope of ESARR 5, in the same manner as service providers/operational organisations. Where there is a number of service providers and more than one independent training centre offering engineering and technical training, it may be appropriate for them to be subject to approval by the Designated Authority under national requirements. Where the training is conducted by a monopoly provider, the training may be regulated under the provider's safety management or quality management system, provided the SMS or QMS has been written to include the training centre's organisational arrangements and processes. External contractors (operating organisations) who provide services (technical services to support ATM) which fall within the scope of ESARR 5 may either be subject to direct regulation by the safety regulator or regulation through their interface arrangements with the service provider, provided these are included in the SMS.

The provider's documentation should clearly demonstrate how the organisational arrangements and processes contribute to compliance with ESARR 5. The regulator must also be assured that there is a viable management process in place to ensure internal verification.

In the initial safety oversight of ESARR 5, the safety regulator needs to determine if the processes being proposed by the service provider will satisfy the requirements. Even though this is an initial safety oversight, the regulator should ensure that the processes produce the necessary evidence (in the form of reports, results, statistical data, etc.) to enable continued compliance to be determined at on-going audits. The purpose of the initial safety oversight is to ensure that the service provider has the necessary organisational arrangements and processes in place and has established administration and interface arrangements to accommodate the regulator's on-going auditing and inspection activities.

3.2   Scope and Objective

Safety oversight should encompass all providers and organisations whose activities require compliance with ESARR 5.

The objective is to determine if the proposed organisational arrangements and processes will ensure compliance with ESARR 5 and provide the necessary evidence of continued compliance as required by the safety regulator.

3.3   Process Principles

The initial safety oversight of ESARR 5 compliance should:

a) Accept the documented organisation arrangements and processes proposed by the provider after he demonstrates compliance;

b) Verify, through safety regulatory audits and inspections, the effective implementation of these arrangements and processes. This should include ensuring that evidence provided to the regulator for the issue of licences or certificates of competence is reliable;

c) Identify, propose and demand corrective actions where deficiencies are identified;

d) Be part of the overall approval of the safety management system or, in the case of organisations that are not required to have an SMS, an approval under national requirements;

e) Indicate, as a minimum, the precise scope, applicability and durations of the approval and any conditions which restrict operations that will apply while the approval is in force;

f) Be conducted in successive steps to ease the phased implementation and provide useful feedback for the provider.

3.4   Practical Aspects

Before conducting the initial safety oversight, the interface arrangements between the safety regulator, service provider and any other organisations which fall within the scope of ESARR 5 must be agreed.

It is the service provider's responsibility for the development of organisational arrangements and processes and for proposing these as means of compliance with ESARR 5. This activity should not be conducted in isolation from the safety regulator, who should be involved from an early stage in order to provide advice and guidance on whether or not the proposals are likely to meet its requirements for compliance. If this co-operation is effective it simplifies the initial safety oversight process, as a means of compliance will already have been agreed and only the detailed processes and their effective implementation will need to be audited.

Some key aspects should be considered in any initial safety oversight process intended to determine compliance with ESARR 5:

a) There is a clear identification of requirements to be met, particularly those associated with the compliance with ESARR 5;

b) Regulatory activities such as audits and inspections should be planned to take place in step with the provider's implementation programme;

c) It is advisable to follow a top-down approach, starting at the policy level;

d) Service providers should provide sufficient documentary evidence of their arrangements and processes to enable the regulator to confirm compliance with ESARR 5;

e) Audits and inspections should concentrate on whether or not the organisation is effectively implementing its arrangements and processes and if these are achieving the outcomes necessary for the compliance with ESARR 5.

3.5 Changes to the Provider's Means of Compliance with ESARR 5

Progress within the ATM industry associated with development of new equipment and ATC procedures requires the continual development of training and assessment schemes. A change to, for example, an approved unit training plan, effectively invalidates the approval unless there is a procedure to manage changes within the approval process.

Assessment of the service provider's/operational organisation's process for managing change should be part of the initial safety oversight. It must be properly documented and provide evidences of what the changes are, why they were made and any safety assessment that was conducted.

It may be appropriate for the service provider or other organisation to inform the regulator of any changes they intend to make to a process which has been accepted as compliant with ESARR 5. If the regulator considers the proposed change to be significant, the process will be reviewed as part of the safety oversight process. If it is not considered to be significant, no action is required and the provider will implement the change in accordance with its processes.

3.6 ESARR 5 Already in Operation

Where the provider already has processes in place which comply with ESARR 5, or is able to comply with only minor modifications, the safety regulator will not be involved in the implementation process and an initial safety oversight will only be appropriate for any modifications to the existing system.

Although already compliant with ESARR 5, the separation of service provision and safety regulation may generate major changes to the provider's processes. This may occur when the service provider relies on the ATM safety regulator to achieve compliance. For example, the ATM safety regulator's staff may assess the competence of the service provider's engineering and technical staff. With the separation of service provision from safety regulation, it is the service provider/operating organisation who should take responsibility for the competence of its engineering and technical personnel. To achieve this, the provider will have to implement a process which will be subject to approval by the ATM safety regulator. Processes generated as a result of the separation of service provision from safety regulation, but which are not required to be compliant with ESARR 5, should be subject to an initial safety oversight process.

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4. ON-GOING SAFETY OVERSIGHT

4.1 Introduction

4.1.1 General Considerations

A State's obligation and responsibility for a safe ATM System does not end with the issuance of a safety regulatory approval.

A State shall ensure that all privileges granted by such an approval are not exercised unless the holder maintains compliance with ESARR 5 compliant national regulations.

Therefore, the maintenance of continued compliance with ESARR 5 demands that a State establishes a system of continued control and supervision, in order to ensure the continuing validity of safety regulatory approvals.

In this document, this system is called "on-going safety oversight"

The continued validity of a safety regulatory approval is dependent upon the ATM service provider/operating organisation maintaining compliance with the safety requirements established for its issuance. The Designated Authority should therefore be given the powers to conduct safety regulatory audits and inspections, and to grant, modify, renew, suspend, revoke, or terminate a safety regulatory approval.

Additionally, the Designated Authority should have the responsibility to exercise continuing surveillance over the ATM provider's/operating organisation's operations to ensure that acceptable risk assessment and mitigation practices are maintained and to verify that tolerable safety levels are met.

4.1.2 Rationale

Whatever the method used to recognise that the service provider or other organisation is complying with ESARR 5, there will be a requirement to ensure on-going compliance. Accordingly, the regulator should establish an on-going safety oversight process to verify continued compliance.

During the initial safety oversight, the regulator should ensure that the provider's/operating organisation's processes will generate the required evidence to confirm compliance.

The scope of ESARR 5 is such that on-going safety oversight cannot be expected to review all the provider's/operating organisation's processes associated with its compliance. The ATM safety regulator will therefore have to prioritise the areas that will be subject to review. The most important areas are those that are critical to the safety of service provision, e.g. the on-going experience and competence of ATM engineers and technical personnel. In particular, the review should consider the processes within these areas by which the provider/operating organisation identifies problems through its own internal verification processes and manages any changes that are required.

On-going safety oversight immediately following an initial safety oversight should review any weaknesses that were originally identified. The review should consider any remedial or corrective actions taken and determine if the provider/operating organisation is now compliant. As the process of conducting on-going safety oversights matures and the ATM safety regulator becomes more confident that the provider's/operating organisation's processes are appropriate and are being applied correctly, particular areas may be selected for more in-depth review.

The ATM safety regulator should use all available sources of information when determining which procedures to review during an on-going safety oversight. These may include; audit reports that are the outcome of the provider's/operating organisation's internal audit processes, monitoring the frequency and causes of incidents, observations by the ATM safety regulator's personnel who are involved in the regulation of ESARR 5 and reviewing reports generated by confidential reporting schemes.

In general, the on-going safety oversight should concentrate on the processes rather than the product. It is important to recognise that the regulation of ATM personnel is not as straightforward as that associated with equipment or ATC procedures. The product of, for example, training, will be individuals who have, at least, the minimum required skills and knowledge, but a range of abilities. Personnel will achieve different levels of competence and this will determine the tasks they will be permitted to perform in terms of the complexity of the ATM tasks they undertake.

It is the responsibility of the providers/operating organisations to have a process in place ensuring the competence of ATM personnel. The regulator may not have ATM personnel who are qualified to assess competence on all equipment or at all units. In this safety critical area it may therefore be appropriate for the regulator to have on-going formal contact with those ATM personnel who assess competence beyond that afforded by initial or on-going safety oversight.

4.2   Scope and Objective

The on-going safety oversight will be applied to any service provider/operating organisation or other organisation that has had its compliance with ESARR 5 recognised by the safety regulator.

The objective is to verify on-going compliance with the arrangements and processes by which the service provider/operating organisation or other organisation complies with ESARR 5 and to identify any areas of non-compliance where prompt corrective action is needed.

4.3   Process Principles

The on-going safety oversight of ESARR 5 may include the:

a) Conduct of a continuous evaluation of the organisational arrangements and processes by which the service providers comply with ESARR 5 through appropriate monitoring and a systematic programme of safety regulatory audits and inspections;

b) Monitoring the organisational arrangements and processes to prioritise audits in those areas where verification of continuous compliance is needed;

c) Use of safety regulatory audits and inspections as part of a systematic process to provide verification of compliance. Depending on specific situations, verification may include confirming that:

i. written procedures and other established arrangements are in place and satisfy compliance with required procedures and other arrangements;

ii. processes and other arrangements are being conducted in accordance with the written procedures and any other arrangements;

iii. there is compliance with prescriptive specifications required by the regulator, particularly those ESARR 5 requirements relating to ATCOs and Student ATCOs.

d) Demand for corrective actions where deficiencies are identified;

e) Consideration of all of organisational arrangements and processes by which the service providers/operating organisations comply with ESARR 5, but focusing attention on those that are involved with the provider's/operating organisation processes for detecting and correcting deficiencies, especially those safety critical areas such as the competence of ATM engineering and technical personnel undertaking operational safety related tasks;

f) Follow up of the provider's/operating organisation's compliance with any required corrective actions and verify that their implementation restores compliance within the required timescale;

g) Proposal for addressing further safety oversight actions and programmes to the appropriate point of responsibility within the ATM safety regulatory body in those situations where they are needed.

4.4   Practical Aspects

The on-going safety oversight of a service provider's/operating organisation's compliance with ESARR 5 may contain elements of both auditing and inspecting.

Auditing will normally concentrate on whether or not the service provider/operating organisation is continuing to apply the processes reviewed by the safety regulator during the initial safety oversight. This will normally be achieved by auditing the documentation produced by these processes. If the on-going safety oversight reveals that the processes do not provide sufficient evidence of compliance they will need to be reviewed.

Audits should concentrate on those areas which are safety critical and/or where the safety regulator, through its monitoring process, has identified potential or actual problems. Other important areas will be those associated with internal auditing processes, particularly where changes have been made in accordance with an autonomous change process to satisfy identified deficiencies.

The audits should be conducted in depth and may involve interviewing the service provider's/operating organisation's ATM personnel who have a role in training or the assessment of competence. This can be a sensitive issue and the personnel and their managers involved should be made fully aware of the purpose of any interviews prior to the audit.

Audits should be conducted in accordance with an audit plan produced and agreed in advance with the service provider/operational organisation. The results of the audit should be published by the safety regulator in an audit report. Any issues identified during the audit as having immediate safety implications should be reported to the service provider/operating organisation, who should be required to deal with them immediately. All deficiencies should be notified in the audit report, including those for which immediate corrective action by the provider/operating organisation is required, and the time-scales for achieving compliance.

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5. AREAS FOR CONSIDERATION IN SAFETY REGULATORY AUDIT PROTOCOLS

5.1 Purpose

The material included in this section provides guidance for the preparation of audit protocols related to the verification of compliance with ESARR 5.

This material indicates areas for consideration in the ESARR 5 safety oversight processes (see Appendix B). Although its content cannot be considered as a final checklist for the evaluation of ESARR 5 compliance, States should work within its general framework and add any additional areas where consideration is required under its adopted style of regulation and by national requirements.

5.2 Use of 'Areas of Consideration'

Some of the areas indicated for the safety oversight of ESARR 5 requirements for ATCOs were very specific, e.g. the requirement for initial courses of ATC training to satisfy as a minimum the Common Core Content (CCC) requirements. The EUROCONTROL Institute of Air Navigation Services has developed a checklist to enable States to determine if a training organisation is complying with this part of ESARR 5. In the case of the safety oversight for engineers and technical personnel, the same level of detail will not be possible due the generic approach provided by ESARR 5, Section 5.3. Section 5.2 (ATCO requirements) has provided rather prescriptive requirements for ATCOs, whilst for engineers and technical personnel this approach was generic, leaving the way open to for demonstrating compliance at the discretion of the service provider/operating organisation and the national ATM safety regulator. For this reason, the following checklist tries to underline a 'common sense' approach, the detailed approach being supplemented by the national ATM safety regulator.

Safety regulators should produce an audit plan or other documentation indicating their intended areas of inspection or audit. Following the audit or inspection, a report should be compiled indicating any areas of non-compliance.

Prior to the audit or inspection, those involved in the process should develop checklists to ensure that they will consider all processes within the selected areas. Checklists or audit plans should not restrict the auditors or inspectors to the extent that they cannot exercise discretion in considering areas outside the notified audit or inspection areas. This is important because areas not in the audit plan or other documentation may be adversely impacted upon by non-compliance in those areas notified for audit or inspection.

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APPENDIX A – TERMS AND DEFINITIONS

TERM	DEFINITION
Accident	As per ICAO Annex 13.
ATM	The aggregation of ground based (comprising variously ATS, ASM, ATFM) and airborne functions required to ensure the safe and efficient movement of aircraft during all appropriate phases of operations.
ATM Service-Provider	An organisation responsible and authorised to provide ATM service(s).
AMC	Acceptable Means Of Compliance.
ESARR	EUROCONTROL Safety Regulatory Requirement (see Safety Regulatory Requirement).
Incident	An occurrence, other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operation.
Level of Safety	A level of how far safety is to be pursued in a given context, assessed with reference to an acceptable or tolerable risk.
Operating Organisation	Any Organisation that fall within the jurisdiction of the National ATM safety regulatory body and responsible for the provision of engineering and technical services supporting Air Traffic Management services.
Regulation	The adoption, enactment and implementation of rules for the achievement of stated objectives by those to whom the regulatory process applies.
Safety Management System (SMS)	A systematic and explicit approach defining the activities by which safety management is undertaken by an organisation in order to achieve acceptable or tolerable safety.
Safety Oversight	The function undertaken by a designated authority to verify that safety regulatory objectives and requirements are effectively met.
Safety Performance	The measurement of achieved safety within the overall ATM system performance measurement.

TERM	DEFINITION
Safety Regulatory Requirement	The formal stipulation by the regulator of a safety related specification which, if complied with, will lead to acknowledgement of safety competence in that respect.
Safety Regulatory Audit	Verify: Written procedures and arrangements against required procedures and arrangements; And/or actual processes and their results against written procedures and arrangements[2].
Safety Regulatory Inspection	Verify products, services or specified parts of the ATM System against specifications required and previously published by the Safety Regulator.
SRC	Safety Regulation Commission.
System	A combination of physical components, procedures and human resources organised to perform a function.

Note: Not all definitions included in ESARR 5 are listed in this Appendix.

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[2] This also includes verification of compliance with allocated objectives, mitigation measures and any other arrangement identified as a result of the procedures carried out by the ATM service-provider.

APPENDIX B – GUIDANCE ON THE CRITERIA FOR THE ASSESSMENT OF COMPLIANCE WITH ESARR 5 FOR ENGINEERING AND TECHNICAL PERSONNEL UNDERTAKING OPERATIONAL SAFETY-RELATED TASKS

This table has been produced to provide NSAs with guidance to support the development of criteria for the assessment of compliance with ESARR 5 for engineering and technical personnel undertaking operational safety-related tasks.

This material is of particular interest when developing a strategy to verify the implementation of ESARR 5-related requirements in the context of the certification and ongoing oversight of ANSPs against the Common Requirements established in Commission Regulation (EC) 2096/2005. As such, the table is referenced to in EAM 1 / GUI 5 'ESARR 1 in the Certification and Designation of Service Providers'.

This table also contains indications about the possible use of its contents by NSAs. In particular, it should be noted that this material only provides guidance on possible evidences and possible ways to evaluate them. The range of contents from this table that may support the NSA in a specific situation will normally depend upon the case. In particular, different approaches will be needed for initial and ongoing safety oversight. NSAs are expected to define their strategy regarding the necessary actions and level of verification consistently with the recommendations of EAM 1 / GUI 3 and EAM 1 / GUI 5. The evidences and ways to assess them will also depend on the implementing arrangements put in place by the ANSP to meet the requirement.

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ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes

NOTES ABOUT THE USE OF THIS TABLE

a) The table provides indications about evidences that can be expected to be found to show compliance with the requirement. These evidences illustrate a means, but not necessarily the only possible means, by which a requirement can be met.

b) Guidance is also included about some possible ways to assess these evidences. Depending upon the case only a limited set of the actions proposed, or other alternative or additional actions, may be needed to assess the evidences under consideration. NSAs are expected to define their strategy regarding the necessary actions and level of verification in a manner consistent with the recommendations of EAM 1 / GUI 3 and EAM 1 / GUI 5. In particular, different approaches will be needed for initial and ongoing safety oversight.

c) Indications of possible evidences are given not only regarding the existence of written arrangements/procedures but also in relation to their effective implementation. This latter aspect is normally demonstrated by means of evidences which exist after allowing a period for the effective operation of the written arrangements/procedures.

d) Sampling is proposed to assess the effective implementation of various arrangements. As a general rule, it is recommended that samples include at least 10% of the units relevant to the case under consideration over a specific period of time. Wherever sampling is proposed, the comments/notes normally include an indication of the sampling unit.

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2	The operating organisation shall: […]	*Common Requirements* *Annex 2, 3.3* A provider of air traffic services shall ensure […] including personnel of subcontracted operating organisations […]	Evidences with all bullets from a) to g).	Check the points included in relation to all the bullets, from a) to g) below.	Operating Organisation means any organisation that fall within the jurisdiction of the national ATM safety regulatory body and responsible for the provision of engineering and technical services supporting ATM services. (Note included in ESARR 5, 5.3). Under this definition, the ATM service provider itself would be the operating organisation when providing its own technical support. If engineering and technical supporting services are not provided by the ATM service provider, the operating organisation would be a separate entity.

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 a)	ensure that technical and engineering personnel are properly trained and qualified to perform the assigned tasks;	*Common Requirements* *Annex 2, 3.3* ensure that technical and engineering personnel including personnel of subcontracted operating organisations who operate and maintain ATM equipment approved for its operational use have and maintain sufficient knowledge and understanding of the services they are supporting, of the actual and potential effects of their work on the safety of those services, and of the appropriate working limits to be applied.	Documentation describing the organisation's approach to training and qualification: • Training policy, • Training plans/programmes, • Personnel qualification schemes and policies, • Other relevant documents.	Check the existence of sufficient documentation describing the organisation's approach to training and qualification. Check the points included in relation to all the bullets, from b) to g) below.	5.3.2 b) to g) specify the means to meet the obligation to ensure that technical and engineering personnel are properly trained and qualified to perform the assigned tasks;

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 b)	The operating organisation shall ensure that technical and engineering personnel: i) have and maintain sufficient knowledge to ensure a sound understanding of the ATM service(s) they are supporting, and the actual and potential effects of their work on the safety of those service(s); and ii) have and maintain sufficient knowledge of the appropriate working limits to be applied when performing safety related tasks;	*Common Requirements* *Annex 2, 3.3* *Common Requirements* *Annex 2, 3.3* ensure that technical and engineering personnel including personnel of subcontracted operating organisations who operate and maintain ATM equipment approved for its operational use have and maintain sufficient knowledge and understanding of the services they are supporting, of the actual and potential effects of their work on the safety of those services, and of the appropriate working limits to be applied.	Training syllabus: • Training objectives.	Check if training objectives are documented and include objectives with regard to: • ATM service(s) that ATSEPs have to support, • Potential effect of ATSEPs tasks on the safety of those ATM services, • Working limits to be applied when performing tasks. for initial and qualification training, refresher training, and degraded situations training.	

			Records documenting the implementation of training activities:
			
			• Examination(s) and/or reports/assessments.
				In a sample selected by the NSA amongst the training reports/assessments for initial, qualification, refresher and degraded situations training, check that:
				
				• The relevant training objective established in the syllabus with regard to:
				
				  o The ATM service(s) that ATSEPs have to support,
				
				  o Potential effect of ATSEPs tasks on the safety of those ATM services,
				
				  o Working limits to be applied when performing tasks.
				
				have been assessed for each report/assessment.
					(sampling unit = training reports/assessment resulting from training activities intended from ATSEPs within the operating organisation).

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
			Personnel qualification schemes and policy: • Elements describing the ATM services and criteria for assigned tasks, • Elements describing working limits and other relevant conditions, • Other relevant documents.	Check whether the personnel qualification schemes and policies include: • Qualification criteria defined for the ATM services to be supported, • Means to define appropriate working limits to be applied by qualified and non-qualified ATSEPs when performing their tasks.	
			Records documenting the application of the qualification schemes and policies to individuals.	In a sample selected by the NSA amongst ATSEPs working at different units/facilities, check whether each ATSEP in the sample: • Has a qualification associated with the ATM service(s) he is actually supporting, • Works within the working limits to be applied when performing the tasks he/she is actually conducting.	(sampling unit = ATSEP working in the operating organisation).
5.3.2 c)	ensure that, in relation to engineering and technical personnel, evidence exists, is documented by the Operating Organisation, and is available to the Designated Authority on request, of the adequacy of personnel arrangements, and of personnel qualifications to perform their safety related tasks, with particular regard to:	*Common Requirements* *Annex 2, 3.3* With regard to the personnel involved in safety related tasks including personnel of subcontracted operating organisations, the provider of air traffic services shall document the adequacy of the competence of the personnel; […]	Documentation system.	Check that: • A documentation system is in existence to ensure that relevant evidence is documented by the Operating Organisation, • The documentation systems covers the areas and records to be kept in relation to the points in 5.3.2 c) i) to vi), • Documentation control procedures in place.	
			Evidences with regard to 5.3.2 b) above and 5.3.2 c) from i) to vi) below.	Check the points included in relation to 5.3.2 b) above and 5.3.2 c) from i) to vi) below.	

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 c) i)	[…] the availability of sufficient personnel competence assigned to operational safety related tasks, and conformance with regulatory provisions invoked by section 5.3.1. para. b above; […]	*Common Requirements* *Annex 2, 3.3* […] the rostering arrangements in place to ensure sufficient capacity and continuity of service; […]	Documentation related to the availability of personnel: • Assessment of personnel needed, • List of qualified and non-qualified personnel, • Rostering arrangements, • Other relevant documents.	Check that: • There is a documented assessment identifying the number of qualified personnel needed to perform the operational safety related tasks. • The needs identified correspond with the actual number and qualification of personnel performing assigned tasks for ATM equipment approved for operational use. • How many non-qualified personnel were under supervision for the last five years and whether the number was in conformance with the identified needs for personnel. • The correspondence between the criteria and the qualifications of personnel performing the assigned tasks. • There is a process for the planning of personnel within the watch rosters consistently with the criteria and the qualification of personnel available. • Compliance with provisions defined by the Designated Authority as a result of 5.3.1 b).	
			Records documenting the application of rostering arrangements: • Rosters, • Other relevant documents.	In a sample of watch rosters selected by the NSA, check that: • The planning conformed the relevant arrangements, • The personnel included covered the needs for personnel meeting the criteria for the tasks concerned. for each watch roster in the sample.	(sampling unit = watch roster used in the operating organisation).

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 c) ii) iii)	[…] ii) the Operating Organisation's personnel qualification schemes and policy; ii) the competence, specialisation and recency of the Operating Organisation's personnel;[…]	*Common Requirements* *Annex 2, 3.3* […] the personnel qualification schemes and policy […]	Personnel qualification schemes and policies: • Policy and principles, • Criteria for assigned tasks, • Other relevant documents.	Check the existence of a personnel qualification schemes and policies. Review them to check: • Whether qualification criteria are defined and documented for personnel performing operational safety-related tasks, • The correspondence between personnel qualification and the training undertaken, • Whether conditions are set up for on-going competence (e.g. minimum number of hours on ATM equipment approved for operational use, periodical assessments, periodical training, refresher and degraded situation training, etc.) and for not meeting the on-going competence requirements (how to resume normal activity after not meeting on going competence), • Whether assessments are conducted by designated persons, • Whether qualifications are set up for personnel undertaking conversional training and developmental training, • Whether criteria are set up for personnel that may supervise (i.e. competence and appropriate experience) non-qualified personnel, • Whether there are arrangements with regard to non-qualified personnel working under supervision, • Whether there is an assessment (on going and/or final) for non-qualified personnel in order to become qualified.	

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
			Records documenting the application of the qualification schemes and policy to individuals.	In a sample selected by the NSA amongst ATSEPs working at different units/facilities, check for each ATSEP in the sample: • Correspondence between the criteria and the qualifications of the ATSEP conducting assigned tasks, • Correspondence between the qualification and the training followed, • Whether the assessments (theoretical and practical) established in the qualification scheme where conducted.	(sampling unit = ATSEP working in the operating organisation).
5.3.2 c) iv)	[…] the Operating Organisation's personnel training policy and plans; […]	*Common Requirements* *Annex 2, 3.3* […] the personnel training policy, training plans and records […]	Training policy.	Check that training policy statements, properly documented and endorsed by management, exist to establish: • The approach to ATSEPs training in relation to their career starting from recruitment, • That each position is associated with an initial qualification, equipment/system rating training, periodical and refresher training, and degraded situations training, • Conversion training and developmental training, • That refresher training and degraded situations training is done periodically, • A process for on-going competence that includes both periodical training (refresher and degraded situation training), number of working hours on ATM equipment approved for operational use, periodical assessments (theoretical and practical).	

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
			Training plans/programmes.	Check that: • Training plans/programmes have been in existence for the last two or three years, • Training plans/programmes cover training from recruitment up to full qualification, refresher training, degraded situations training, conversion training and developmental training, • Refresher training and degraded situations training has been done planned/programme as described in the training policy.	
			Records documenting the implementation of training activities • Regarding attendance, • Examination(s) and/or reports/assessments, • Regarding qualifications obtained/recognised, • Personnel records, • Other relevant documents.	Check the existence of training records documenting attendance, examination(s) and/or reports/assessments during and/or at the end of each activity and qualification obtained or recognised. More specifically, check the existence of records in relation to: • Initial training and qualification training, • Equipment/system rating training, • Periodical refresher training and degraded situations training, • Conversion training and developmental training, In a sample selected by the NSA amongst the training activities planned/programmed in the last two years, check whether each activity in the sample: • Was completed in accordance with the training plans/programmes, • Conformed to the scope, duration, attendance and other relevant aspects required in the training policy and plan/programme. Check also whether refresher training and the training on degraded situations is effectively conducted periodically as described in the training policy.	(sampling unit = training activity intended for ATSEPs and planned in the last two years).

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 c) v)	[…] the Operating Organisation's personnel training records; […]	*Common Requirements* *Annex 2, 3.3* […] A provider of air traffic services shall maintain a register of information on the numbers, status and deployment of the personnel involved in safety related tasks. The register shall: (a) identify the accountable managers for safety related functions; (b) record the relevant qualifications of technical and operational personnel, against required skills and competence requirements; (c) specify the locations and duties to which technical and operational personnel are assigned, including any rostering methodology.	Records documenting the implementation of training activities: • Personnel records.	Check the existence of personnel records for each ATSEP working in the operating organisation. In a sample selected by the NSA amongst the ATSEPs working in the operating organisation, check whether: • Records are created, kept and maintained; and • Document relevant information with regard to qualification, training and identification of tasks assigned, including: of each person in the sample.	
5.3.2 c) vi)	[…] the Operating Organisation's arrangements for the supervision of non-qualified personnel; […]	*Common Requirements* *Annex 2, 3.3* […] as well as arrangements for the supervision of non-qualified personnel […]	Procedures/arrangements for supervision of non-qualified personnel: • Assessment of non-qualified personnel, • Arrangements for work under supervision of qualified personnel, • Other relevant elements.	Check that procedures/arrangements are in place to ensure that non-qualified personnel conduct tasks under appropriate supervision.	

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
			Records documenting the result of the supervision of non-qualified personnel.	In a sample of non-qualified personnel working in the operating organisation selected by the NSA, check that: • All actions conformed with the relevant procedures/arrangements, • Assessment took place as applicable, • Tasks are conducted under appropriate supervision. for each person included in the sample.	(sampling unit = non-qualified person working in the operating organisation)..

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes

5.3.2 d)	The operating organisation shall ensure that individual technical and engineering personnel must not undertake the assigned operational safety related tasks if the Operating Organisation knows or suspects that the physical or mental condition of the individual renders them unfit to undertake such tasks.	*Common Requirements*
		
		Annex 2, 3.3
		
		It shall have procedures in place for cases where the physical or mental condition of the personnel is in doubt.
			Procedures/arrangements regarding medical fitness of ATSEP.	Check that documented procedures/arrangements are in place to ensure that personnel do not conduct safety related tasks if physical or mental condition is in doubt. More specifically check that:
				
				• There is an identification of physical and/or mental condition(s) under which an individual ATSEP is considered unfit for the assigned tasks,
				
				• Provisions exist to obtain medical fitness reports,
				
				• Provisions exist for regular medical checks,
				
				• Provisions exist for supplementary checks to be conducted in cases where ATSEPs have been found in physical and/or mental condition(s) that render him/her unfit for the assigned tasks,
				
				• The procedures/arrangements address situations where:
				
				  o The operating organisation is being made aware of any physical or mental condition of an ATSEP that render him/her unfit to undertake the assigned tasks;
				
				  o The shift supervisor suspects on solid grounds that an ATSEP is unfit for the tasks assigned;
				
				  o An ATSEP informs about any physical or mental condition that would render him/her unfit to undertake assigned tasks.
				
				• The procedures/arrangements establish that the ATSEP having such medical condition will be withdrawn from the assigned tasks until he/she is fully recovered,
				
				• The procedures/arrangements establish that the ATSEPs can resume his/her assigned tasks based on solid evidence,
				
				• The procedures/arrangements are communicated to the ATSEPs.	

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
			Records documenting the application of procedures/arrangements regarding medical fitness of ATSEP personnel.	In a sample of cases selected by the NSA amongst the cases in which the procedures/arrangements applied, check that the actions conformed to the relevant procedures/arrangements. In particular check that: • ATSEPs identified as having a medical condition which renders him/her unfit to undertake assigned tasks were withdrawn from their assigned tasks until fully recovered. for each case in the sample.	(sampling unit = situation in which there was a need to apply the arrangements related to medical fitness of ATSEPs).

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 e)	The operating organisation shall ensure that, from a safety viewpoint, appropriate methods are in place to ensure that individuals assigned with operational safety related tasks meet the applicable provisions of this Requirement Document.	*Common Requirements* *Annex 2, 3.3* ensure that technical and engineering personnel including personnel of subcontracted operating organisations who operate and maintain ATM equipment approved for its operational use have and maintain sufficient knowledge and understanding of the services they are supporting, of the actual and potential effects of their work on the safety of those services, and of the appropriate working limits to be applied.	Procedures/ arrangements for verification: • Use of safety surveys/audits, • Checks/reviews of processes and records for ATSEPs.	Check the existence of formal procedures/arrangements to systematically and regularly verify the points included in the requirement. More specifically: • Wherever the OO is an ANSP operating a SMS, check whether the safety surveys/audits conducted in accordance with ESARR 3, 5.3.1 cover sufficiently these aspects, in addition to any specific and simpler check/review that could be in place to address them. • Assess whether the regularity of verification is sufficient (irrespective of the means used, surveys/audits or checks/reviews). • If appropriate, proceed to verify the implementation of ESARR 3, Section 5.3.1 (safety surveys), totally or partially, using the tables included in EAM 3 / GUI 3. Review these procedures/arrangements to check whether they sufficiently address the procedures/arrangements related to ATSEPs qualification and training and their results, including checks as regard: • The qualification criteria met by the ATSEPs who are actually performing assigned tasks • The correspondence between personnel qualification and training undertaken • Arrangements with regard to non-qualified personnel working under supervision • Etc	Wherever the OO is an ANPS required to implement ESARR 3, an option is to use the safety surveys/audits conducted in accordance with ESARR 3, Section 5.3.1. Indeed all the ANSP processes and results related to ESARR 5 should be sufficiently covered by the ESARR 3 safety surveys/audits. An alternative is to establish a specific procedure to check these aspects.
			Records documenting the results from the verification procedures/arrangements.	Review the application of the procedures/arrangements to check whether sufficient verification takes place as regards the ATSEPs qualification and training processes and their results.	

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.2 f)	The operating organisation shall report to the Designated Authority all safety events involving engineering and technical personnel and air traffic management equipment approved for operational use; the level of reporting detail to be agreed between the Operating Organisation and Designated Authority.	-	Procedures/arrangements for reporting safety events:	Check that documented procedures/arrangements exist to report safety events involving ATSEPs and the ATM equipment approved for operational use. Check that the procedure/arrangements include, as applicable: • Means to report safety events (e.g. forms) • A focal point nominated to collect and manage the analysis and investigation of safety events • A procedure by which safety events are reported to the Designated Authority at the level of detail agreed by the Designated Authority Check the procedures/arrangements have been reviewed and agreed by the Designated Authority (i.e. the procedure itself and the level of reporting detail) Wherever the OO is an ANSP subject to ESARR 2 and ESARR 3 related requirements, check that the reporting mechanism is consistent with, and properly integrated in, the ESARR 2 and ESARR 3-related arrangements for safety occurrence reporting and investigation. If appropriate proceed to check compliance with ESARR 2 and/or ESARR 3, totally or partially, by using the tables respectively included in EAM 2 / GUI 7 and EAM 3 / GUI 3	No reference in Common Requirements. This provision is linked with ESARR 2.

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
			Records documenting the implementation of safety events reporting: • Reports of safety events, • Other relevant documents.	In a sample of reported safety events selected by the NSA, check that: • All reporting-related actions conformed with the relevant procedures/arrangements, • Information was forwarded to the Designated Authority, • The information covered the level of detail agreed by the Designated Authority. for each reported safety event in the sample. Cross-check the list of safety events reported with information about safety occurrences from other sources to investigate whether safety events were not reported.	(sampling unit = safety events reported).
5.3.2 g)	The operating organisation shall ensure that evidence exists, and is provided to the Designated Authority as required, of the qualification and competence of engineering and technical personnel to perform their operational safety related tasks.	*Common Requirements* *Annex 2, 3.3* With regard to the personnel involved in safety related tasks including personnel of subcontracted operating organisations, the provider of air traffic services shall document the adequacy of the competence of the personnel; the rostering arrangements in place to ensure sufficient capacity and continuity of service; the personnel qualification schemes and policy, the personnel training policy, training plans and records as well as arrangements for the supervision of non-qualified personnel.	Evidences with regard to 5.3.2 c) including sub-bullets from i) to vi).	Check the points included in relation to 5.3.2 b) above and 5.3.2 c) from i) to vi).	The text of 5.3.2 c) focuses on the arrangements, while 5.3.2 g) highlights their application to personnel. Nevertheless the evidences and assessment means proposed for 5.3.2 c) cover their effective implementation and might therefore be sufficient in relation to 5.3.2 g).

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.3.1 a)	Individuals undertaking operational safety related tasks shall comply with requirements and schemes of the Operating Organisation to ensure current and ongoing competence.	*No reference in Common Requirements of other EU legislation.*	See 5.3.2. a), c), g).	See 5.3.2. a), c), g).	EU legislation does not address individuals. The references included relate the provisions to those to be met by the Operating Organisation.
5.3.3.1 b)	Individuals undertaking operational safety related tasks shall comply with additional conditions that may be applied by the Designated Authority in accordance with section 5.3.1. para. b above.	*No reference in Common Requirements of other EU legislation.*	-	Depending upon the conditions determined by the Designated Authority. If applicable, the operating organisation should have in place arrangements/procedures to facilitate the achievement of the conditions determined by the Designated Authority.	EU legislation does not address individuals. The references included relate the provisions to those to be met by the Operating Organisation.
5.3.3.1 c)	Individuals undertaking operational safety related tasks shall not undertake safety related tasks if they know or suspect that their physical or mental condition renders them unfit to undertake such tasks.	*No reference in Common Requirements of other EU legislation.*	See 5.3.2 d).	See 5.3.2 d).	EU legislation does not address individuals. The references included relate the provisions to those to be met by the Operating Organisation.

ESARR 5 Reference	ESARR 5 provision	EC provisions intended to transpose the ESARR provision	Evidence(s)	How could the evidence be assessed	Comments/Notes
5.3.3.1 d)	Individuals undertaking operational safety related tasks shall ensure that they have sufficient knowledge to enable a sound understanding of: i) the ATM service(s) they are supporting, and the actual and potential effects of their work on the safety of those service(s); ii) the appropriate working limits to be applied when performing operational safety related tasks;	*No reference in Common Requirements of other EU legislation.*	See 5.3.2 b).	See 5.3.2 b).	EU legislation does not address individuals. The references included relate the provisions to those to be met by the Operating Organisation.
5.3.3.1 e)	Individuals undertaking operational safety related tasks shall systematically and consistently report safety occurrences in accordance with the provisions laid down in ESARR 2 para. 5.1.2.and 5.1.3.	*No reference in Common Requirements of other EU legislation.*	See 5.3.2 f).	See 5.3.2 f). If appropriate proceed to check compliance with ESARR 2, totally or partially, by using the tables included in EAM 2 / GUI 7.	EU legislation does not address individuals. The references included relate the provisions to those to be met by the Operating Organisation.
5.3.3.2	Engineering and technical operational personnel shall initiate appropriate remedial measures, if the requirements laid down in ESARR 5 para. 5.3.3.1.above, are not met.	*No reference in Common Requirements of other EU legislation.*	Procedures/arrangements to facilitate the action required to individuals.	Check whether provisions exist to allow personnel not being able to comply with the conditions listed in ESARR 5.3.3.1 a) to e) to notify management and seek possible solutions in order to comply with all condition within a reasonable period.	EU legislation does not address individuals. The references included relate the provisions to those to be met by the Operating Organisation.