

Moving Europe towards a sustainable and
safe railway system without frontiers.

Annex IV: Competency Framework

NSA Monitoring

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1. Introduction

Audits are performed by a team of auditors. Individual auditors may not necessarily have all the technical expertise. The team as a whole should have the necessary competencies and not each individual member. The composition of the audit team will depend upon many factors including the NSA tasks to be audited as well as the available resources.

The proposed roles in the NSA monitoring project plan that will be dealt with in this document are: 1) lead auditor 2) auditor and 3) technical expert. When the list of NSA tasks to be audited is finalised this list of technical competency requirements will be completed.

Auditor knowledge and skills can be acquired using a combination of the following:

- formal education/training and experience that contribute to the development of knowledge and skills in the management system discipline and sector the auditor intends to audit;
- training programmes that cover generic auditor knowledge and skills;
- experience in a relevant technical, managerial or professional position involving the exercise of judgement, decision making, problem solving and communication with managers, professionals, peers, customers and other interested parties;
- audit experience acquired under the supervision of an auditor in the same discipline.

2. Roles and responsibilities

For the purpose of the implementation of the 4th Railway Package, the Agency has developed a common approach to key roles planned for the safety certification process whenever the Agency would act as a certification body issuing the single safety certificate. The structure of the key roles and responsibilities in the context of SSC will apply as much as possible for the NSA monitoring.

In addition, the “*Guidelines for auditing management systems*” ISO 19011:2011 and the definitions laid down by “*Quality management systems – Fundamentals and vocabulary*” ISO 9000 are applicable.

2.1. Audit activity

An audit activity is performed by a team composed of a lead auditor and auditors. Technical expert(s) can be included in the audit team. It is not required that each member of audit team has a deep knowledge of the European railway sector but the composition of its members shall be well balanced to ensure its competence for performing audit consistent with the NSA monitoring referential.

Roles	Responsibilities
<p>Lead auditor (Agency staff member)</p>	<p>Responsible for the set-up, management, performance of the monitoring activity assigned to him/her:</p> <ul style="list-style-type: none"> - <i>Providing leadership and coordinating the allocated audit;</i> - <i>Fulfilling the audit objectives, in particular the timely delivery of the work in accordance with quality standards;</i> - <i>Identifying any issues that could prevent the completion of the audit;</i> - <i>Liaising with the programme manager for sharing issues that may affect the completion of the audit;</i> - <i>Issue the audit report;</i> - <i>Reporting on the progress of the audit to the programme manager decision-maker(s);</i> - <i>Ensuring the correct application of the applicable processes and procedures.</i> <p>Responsible for the set-up, management and delivery of the assessment assigned to him/her, which entails:</p> <ul style="list-style-type: none"> - <i>balance the strengths and weaknesses of the individual audit team members;</i> - <i>develop a harmonious working relationship among the audit team members;</i> - <i>manage the audit process, including:</i> <ul style="list-style-type: none"> ○ <i>planning the audit and making effective use of resources during the audit;</i> ○ <i>managing the uncertainty of achieving audit objectives;</i> ○ <i>protecting the health and safety of the audit team members during the audit, including ensuring compliance of the auditors with the relevant health, safety and security requirements;</i> ○ <i>organizing and directing the audit team members;</i> ○ <i>providing direction and guidance to auditors- in-training;</i> ○ <i>preventing and resolving conflicts, as necessary;</i> - <i>represent the audit team in communications with the person managing the audit programme and auditee;</i> - <i>lead the audit team to reach the audit conclusions;</i> - <i>prepare and complete the audit report.</i> <p>In addition, the responsibilities set out below for the auditor apply.</p>

<p>Auditor (Agency staff member or auditors from NSA)</p>	<p>Responsible for specific part(s) of the audit assigned to him/her, which entails:</p> <ul style="list-style-type: none"> - <i>Contributing to fulfil the audit objectives, in particular the timely delivery of the work in accordance with quality standards;</i> - <i>Coordinating with the audited NSA as appropriate;</i> - <i>Identifying any issues that could prevent the completion of the audit;</i> - <i>Liaising with the lead auditor for sharing issues that may impede its part(s) of the audit or the one(s) of other auditor(s);</i> - <i>Managing the results of its part(s) of the audit;</i> - <i>Reporting on the progress of its part(s) of the audit to the lead auditor and draft his/her part of the report;</i> - <i>Applying the relevant processes and procedures.</i>
<p>Technical Expert (Agency staff member or staff members from NSA)</p>	<p>Responsible for providing his / her technical expertise to the audit team depending on the specific needs of the audit. He/she may go on site if needed.</p>
<p>Review function (e.g. Review Committee) (Agency staff members)</p>	<p>Responsible for ensuring consistency between NSAs audit reports.</p>
<p>NSA monitoring contact person (Staff members from NSA)</p>	<p>Appointed by the NSA, responsible for:</p> <ul style="list-style-type: none"> - <i>Acting as a contact person for the monitoring process;</i> - <i>Transmitting requested documentation and information including self evaluation;</i> - <i>Following the audit plan and NSA monitoring principles;</i> - <i>Communicating between his / her organization and the audit team throughout the audit;</i> - <i>Transferring any request from his/her organization to the audit team throughout the lifetime of the audit;</i> - <i>Ensuring that all the necessary arrangements are in place for the audit activities and communicating with the audit team if changes need to be made;</i> - <i>Participating in the audit as required by his / her management and defined in the audit plan.</i>

Audited NSA	<p>The audited NSA is responsible for:</p> <ul style="list-style-type: none"> - Cooperating with NSA monitoring programme manager and with the audit team during the lifetime of the audit; - Providing the required information and data on time during the lifetime of the audit ; - Providing key information as defined in the self-assessment template and requested by the audit team; - Following the audit plan and NSA monitoring principles; - Ensuring that the NSA monitoring contact person is able to fulfil its role; - Developing an action plan(if necessary) and regularly report back on its implementation; - Making available the necessary resources when an audit is performed (e.g. meeting rooms, available staff for the interview, etc.) - Making available qualified auditors for the performance of audit.
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3. Competence and competencies

3.1. Proposed competency framework

As far as relevant, the Agency Competency Management System applies.

As a summary:

Generic knowledge and skills of auditors¹

Competency	Explanation
Audit principles, procedures and methods (certificate could be awarded by recognised body)	<ul style="list-style-type: none"> - Applies audit principles, procedures and methods; - Plans and organises the work effectively; - Conducts the audit within the agreed time schedule; - Prioritises and focuses on matters of significance; - Collects information through effective interviewing, listening, observing and reviewing documents, records and data; - Understands and considers the technical experts' opinions; - Understands the appropriateness and consequences of using sampling techniques for auditing; - Verifies the relevance and accuracy of collected information; - Confirms the sufficiency and appropriateness of audit evidence to support audit findings and conclusions; - Uses work documents to record audit activities; - Documents audit findings and prepares appropriate audit reports; - Maintains the confidentiality and security of information, data, documents and records; - Communicates effectively, orally and in writing (either personally, or through the use of interpreters and translators); - Understands the types of risks associated with auditing.
NSA context	<ul style="list-style-type: none"> - Understanding of organisational types; governance, size, structure, functions and relationships; - Understanding of general business and management concepts, processes and related terminology, including planning, budgeting and management of personnel; - Understanding of cultural and societal aspects of auditee.

¹ All persons carrying out audits will have to be trained on health and safety risks on places with train operations.
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EU rail regulatory framework	<ul style="list-style-type: none"> - Demonstrates an understanding of the purpose of the EU rail regulatory framework and how railway safety is monitored by the NSAs; - Shows knowledge and understanding of the European approach as it has been developed for the following domains: <ul style="list-style-type: none"> o Certification of RUs/Authorisation of IMs; o Supervision of RUs and IMs; o ECM Certification; o Train Drivers Certification; o Vehicle Authorisation; o Authorising the placing in Service of structural subsystems, o Supervision of interoperability constituents. o Risk-based approach as defined by CSMs, etc.
Functioning of the railway system	<ul style="list-style-type: none"> - Understands the relationship between the technical aspects, the people, the operations and the organisation of the railway system. - Understands the main principles on which safety of railway operations are based (e.g. various types of block system for signalling systems).
Language	- B2 level in EN
Experience	
Audits	- Auditing experience
Working in a multicultural environment	- Experience of working in a multicultural environment (e.g. attending international WG meetings) would be an advantage.

Additional knowledge and skills for lead auditor

A lead auditor should have acquired additional audit experience to develop the knowledge and skills described in 1.1. This additional experience should have been gained by working under the direction and guidance of a different lead auditor.

Competency	Explanation
Knowledge	
Be able to manage and provide leadership to the audit team	<ul style="list-style-type: none"> - Balance the strengths and weaknesses of the individual audit team members; - Develop a harmonious working relationship among the audit team members; - Manage the audit process, including: <ul style="list-style-type: none"> o Planning the audit and making effective use of resources during the audit; o Managing the uncertainty of achieving audit objectives; o Protecting the health and safety of the audit team members during the audit, including ensuring compliance of the auditors with the relevant health, safety and security requirements; o Organising and directing the audit team members; o Preventing and resolving conflicts as necessary. - Represent the audit team in communications with the person managing the audit programme and auditee; - Lead the audit team to reach audit conclusions; - Prepare and complete the audit report.
Experience	
Leading audit teams	Auditing experience as a Lead Auditor or having extensive experience as an Auditor

Non-technical competencies (personal behaviour) applicable to both lead auditors and auditors:

- ethical, i.e. fair, truthful, sincere, honest and discreet;
- open-minded, i.e. willing to consider alternative ideas or points of view;
- diplomatic, i.e. tactful in dealing with people;
- observant, i.e. actively observing physical surroundings and activities;
- perceptive, i.e. aware of and able to understand situations;
- versatile, i.e. able to readily adapt to different situations;
- tenacious, i.e. persistent and focused on achieving objectives;
- decisive, i.e. able to reach timely conclusions based on logical reasoning and analysis;
- self-reliant, i.e. able to act and function independently whilst interacting effectively with others; acting with fortitude, i.e. able to act responsibly and ethically, even though these actions may not always be popular and may sometimes result in disagreement or confrontation;
- open to improvement, i.e. willing to learn from situations, and striving for better audit results;
- culturally sensitive, i.e. observant and respectful to the culture of the auditee;
- collaborative, i.e. effectively interacting with others, including audit team members and the auditee’s personnel.

Proposed areas of competence for “technical experts”²

The audit team will be supported by technical experts who will provide specific knowledge or expertise in the specific fields included in the scope of the audit. Besides showing competence in their field of specific technical expertise the technical experts will be expected to demonstrate knowledge of the functioning of the railway system as described for the auditors. The experts are also expected to have a basic understanding of the NSA Monitoring audit process.

General requirements	
Functioning of the railway system	<ul style="list-style-type: none"> - Understands the relationship between the technical aspects, the people, the operations and the organisation of the railway system. - Understands the main principles on which safety of railway operations are based. (e.g. various types of block system for signalling systems) - Understands engineering/system management, in particular the - concept of (safe) integration in a system.

The proposed specific technical competencies are (not limitative):

Area of technical expertise	Technical Competencies
Certification of RUs/Authorisation of IMs	<ul style="list-style-type: none"> - Knows why safety certification/authorisation is being carried out and what it is for; - Understands the dynamic relationship between the certification process and supervision; - Shows an understanding of safety management systems; - Demonstrates knowledge of how an SMS controls risk within a railway context or field with similar operational and technical challenges; - Demonstrates an understanding of what supervision is for and how NSAs supervise in practice and how that feeds into the - conformity assessment process.

² This chapter may need to be further developed as the NSA tasks to be monitored are determined.
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<p>Supervision</p>	<ul style="list-style-type: none"> - Demonstrates an understanding of what supervision is for and how NSAs supervise in practice including ECM, where appropriate, training centers, trackside, control-command and signalling, energy and infrastructure subsystems ensuring that they are in compliance with the essential requirements. - Understands the dynamic relationship between the certification process and supervision; - knows how an SMS controls risks within a railway context or field with similar operational and technical challenges; - Demonstrates an understanding of the CSM on monitoring and how it relates to improvement of SMSs; - Understands the use of maturity models or other measurement tools and how they can be used to manage safety risk.
<p>ECM Certification</p>	<ul style="list-style-type: none"> - Knows why certification of an ECM is being carried out and what it is for; - Has in-depth knowledge of the certification scheme used for the ECM and maintenance workshops; - Understands how ECM processes relate to the SMS of RUs (and IMs) and NSA supervision.
<p>Train Drivers Certification</p>	<ul style="list-style-type: none"> - Has in-depth knowledge of the train driver certification regime; - Understands the different roles and responsibilities players have in the train driver certification process (e.g. RU, NSA, training centres) - Has an in-depth understanding of the relationship between train driver certification and SMS's, in particular how train driver certification fits into competence management as part of the SMS. This will include knowledge of the specifications for railway operational staff as defined in the TSI-OPE
<p>Vehicle Authorisation</p>	<ul style="list-style-type: none"> - Understands the purpose of issuing VA; - Has in depth knowledge of the Practical Arrangements for VA (reg. 2018/545), the related guidance documents and clarification documents issued by the Agency. - Has knowledge on the use of CSM RA for the purpose of VA (requirements capture).Has knowledge on the conformity assessment process for subsystems and interoperability constituents. - Has an in-depth knowledge of VA processes for different authorisation cases and its relation to SMS of RUs (and IMs) and NSA supervision; - Knows why VA is being carried out and what it is for; - Has an in-depth knowledge of VA processes for different authorisation cases and its relation to SMS of RUs (and IMs) and NSA supervision; - Understands the impartiality risks that may derive from NSAs subcontracting, employing NoBo personnel, in activities for the authorisation for placing on the market/placing in service of products certified by the same or other NoBos; - Understands the different roles and responsibilities of players (e.g. DeBos, NoBos, etc.) in the VA process.
<p>Authorising the placing in Service of structural subsystems (APS)</p>	<ul style="list-style-type: none"> - Knows why APS is being carried out and what it is for; - Has in-depth knowledge of APS processes for different authorisation cases and its relation to SMS of RUs (and IMs) and NSA supervision; - Understands the different roles and responsibilities of players (eg DeBos, NoBos, etc) in the APS process; - Understands the impartiality risks that may derive from NSAs subcontracting, employing NoBo personnel, in activities for the authorisation for placing on the market/placing in service of products certified by the same or other NoBos.

Recognition by the NSA of AsBos	<ul style="list-style-type: none"> - Knows clearly the recognition role of the NSA; - Has an overall knowledge of Regulation 402/2013 and the risk management processes defined therein; - Has an in-depth knowledge of all recommendations for use applicable to the AsBos, and available on the Agency webpage.
NSA acting as AsBo	<ul style="list-style-type: none"> - Knows the role of the assessment body when the NSA is acting as AsBo; - Has in-depth knowledge of Regulation 402/2013, the risk management processes defined therein, and all recommendations for use applicable to the AsBos which are available on the Agency webpage; - Understands the roles and responsibilities of different railway players with respect to the risk management process.
Assessment, notification and monitoring of CABs (NoBos)	<ul style="list-style-type: none"> - Knows what is the role of the NSA when appointed as Notifying authority for the assessment, notification and monitoring of CABs; - Understands the different roles and responsibilities of players in the assessment, notification and monitoring of CABs processes; - Good understanding in activities for the authorisation for placing on the market/placing in service of products.

3.2. Assessment of competencies

Any method used to assess competencies, leading to someone being evaluated as competent, needs to be reliable, valid, feasible and credible. For evaluating auditing competencies ISO 19011 Section 7.4 indicates as suitable methods: 1) review of records; 2) feedback; 3) interview; 4) observation; 5) testing and 6) post-audit review and recommends using at least 2 of them.

Candidates will be allocated to the different roles on an audit team based on their experience, including the number of audits they have undertaken and their area of expertise. The audit team, supported by technical experts, will be composed of auditors and a lead auditor which, as a whole, has the necessary competencies and experience (rather than each individual member).

3.3. Training in competencies

Article 33 para 2 (b) of Regulation (EU) 2016/796 states:

“The Agency shall promote the inclusion in the audit team of qualified auditors from national safety authorities that are not subject to the actual audit. For that purpose, the Agency shall establish a list of qualified auditors and provide them with training when needed.”

A training programme will be provided by the Agency to ensure that there is a common understanding of the role and a harmonised approach to the tasks of the NSA auditors.

Auditors and technical experts from the Agency and from NSAs shall be informed by the audited NSA on health and safety risks in case audits take place on railway sites.

To make the best use of resources, both financial (ERA) and time (NSA and ERA participants), IT tools such as webinars, on-line courses, etc. may be used as much as possible.

The content of the training programme will include modules such as ISO 9001:2015, management system and risk management principles, NSA monitoring methodology, procedures and tools, risk and how to apply it, update on EU revised legal framework, auditing. Training modules will be provided depending on the needs of the various auditors and technical experts and the priorities of the NSA monitoring programme.

In order to continuously improve the training programme will be evaluated and modified in light of experience.