OCCUPATIONAL QUALIFICATION STANDARD

Railway Signalling Area Assistant, EstQF Level 2

An occupational qualification standard is a document which describes the set of skills, knowledge and attitudes, i.e. competence requirements, needed to successfully accomplish duties. Occupational qualification standards are used for compiling curricula and awarding qualifications.

Occupational title	Level of Estonian Qualifications Framework (EstQF)
Railway Signalling Area Assistant, EstQF Level 2	2

Part A
DESCRIPTION OF WORK

A.1 Description of work
Railway Signalling Area Assistant, Level 2 conducts uncomplicated maintenance and repairs on railway safety and communications equipment. They work with a certain degree of independence in unvarying situations. A railway signalling area assistant is responsible for their work tasks as well as hazardous situations resulting from breaches of safety during maintenance (e.g. improper tools and methods). There are four occupations in the field of maintenance and repairs of railway safety equipment. Railway Signalling Area Assistant, Level 2 conducts uncomplicated maintenance and repairs on railway safety and communications equipment. Railway Signalling Area Engineer, Level 4 conducts maintenance and repairs on railway safety and communications equipment. Railway Signalling Area Engineer, Level 5 plans and organises maintenance and repairs of railway security and communications equipment and carries out such work in their area. Railway Signalling Area Engineer, Level 6 plans and organises maintenance and repairs of railway safety and communications equipment in several regions or throughout an organisation.
A.2 Tasks
A.2.1 Maintenance of safety equipment Light signal maintenance 1. Replacing lamps in light signals and journey displays 2. Electrical measurements of light signals on main power 3. Maintenance of light signals without disturbing their normal operation Turnout safety equipment maintenance 4. Maintenance of turnout motors and fittings that does not require the disassembly of parts or the disruption of electrical connections and does not disturb the normal operation of the device Track circuit and axle counter maintenance 5. Maintenance without disturbing the normal operation of the devices or changing set parameters 6. Maintenance of throttle transformers without shutdown Maintenance of computer-based controls 7. Maintenance of traffic manager workstation hardware without disturbing the normal functionality of the devices Maintenance of internal hardware, equipment cabinets and containers 8. Maintenance of equipment cabinets without device shutdown 9. Maintenance of the internal hardware of safety equipment without device shutdown Maintenance of safety equipment at crossings 10. Maintenance of automatic signalling equipment at crossings without device shutdown or changing set parameters Maintenance of safety equipment power supply 11. Battery maintenance without interruption to operation

A.3 Work environment and specific nature of work
A railway signalling area assistant works both indoors and outdoors. A railway signalling area assistant's working hours are fixed, but in the event of major equipment breakdowns or brief technological windows, they must work outside regular business hours, including on weekends and holidays. The workload may be unevenly distributed. The working environment is associated with an increased risk of injury and often requires working in a forced position and at heights. Exposure to chemicals and toxic agents, tick-borne infectious diseases, heat, humidity and temperature fluctuation can cause damage to health and therefore require the use of personal protective equipment and preferably vaccination. Due to the above-average level of dangerous work, a railway signalling area assistant must strictly observe the rules of work, health and safety. Breach of safety requirements can result in illness, trauma, disability or a rail traffic accident. The occupation of Railway Signalling Area Assistant requires regular medical check-ups.
A.4 Tools
The main tools are locksmith tools (e.g. wrench, hammer and screwdriver), hand tools (e.g. shovel and electric tools), indicator instruments and communication devices (e.g. telephone and radio).
A.5 Personal qualities required for work: abilities and characteristics
The work of a railway signalling area assistant requires stress tolerance, physical strength, accuracy of movement, speed, coordination, vigour, dexterity, odour sensitivity, good vision and good hearing. Resilience, environmental tolerance, cooperative skills, learning ability, accountability, reliability, emotional stability, accuracy, self-discipline, communication readiness and decision-making skills within the limits of their competence are also necessary. Railway Signalling Area Assistant, Level 2 is expected to commit to their work and accept the goals of the organisation.
A.6 Professional preparation
Railway signalling area assistants are usually people who have basic education and who have acquired professional skills under the supervision of a railway signalling area engineer with at least Level 4 qualifications.
A.7 Most common occupational titles
Railway signalling area fitter, railway technician, communications fitter
A.8 Regulations governing profession
The work of a railway signalling area assistant is regulated by the Railways Act and the regulation of the Government of the Republic of Estonia 'List of Work Environment Hazards and Work for Which the Employment of Minors is Prohibited'.

Part B
COMPETENCY REQUIREMENTS

B.1 Structure of occupation
Competences B.2.1 and B.2 must be certified when applying for the qualification of Railway Signalling Area Assistant, Level 2.

B.2 Competences

MANDATORY COMPETENCES

B.2.1 Maintenance of safety equipment	EstQF Level 2
Performance indicators: Light signal maintenance	

1. replaces lamps in light signals and journey displays in accordance with the internal normative documents of the organisation using appropriate tools; 2. takes electrical measurements of light signals on main power in accordance with the internal normative documents of the organisation using appropriate tools; 3. conducts maintenance of light signals (e.g. cleans, paints and checks visibility) without disruption in accordance with the rules for the technical use of railways and the internal normative documents of the organisation using appropriate tools; Turnout safety equipment maintenance 4. conducts maintenance of turnout motors and fittings (e.g. cleans, paints, performs visual inspections, tightens bolts and replaces individual insulation elements) in accordance with the internal normative documents of the organisation using appropriate tools; Track circuit and axle counter maintenance 5. conducts maintenance of equipment (e.g. checks, cleans and paints connecting cables and signal boxes and changes lock combinations) without disruption or changing set parameters in accordance with the internal normative documents of the organisation using appropriate tools; 6. conducts throttle transformer maintenance without shutdown in accordance with the internal normative documents of the organisation and the manufacturer's instructions using appropriate tools; Maintenance of computer-based controls 7. conducts maintenance of traffic manager work station hardware without disturbing the normal functionality of the devices in accordance with the internal normative documents of the organisation using appropriate tools; Maintenance of internal hardware, equipment cabinets and containers 8. conducts maintenance of equipment cabinets (e.g. inspects, cleans and paints cabinets) without device shutdown in accordance with the internal normative documents of the organisation using appropriate tools; 9. conducts maintenance of the internal hardware of safety equipment (e.g. performs visual inspections and general cleaning and secures attachments) without shutdown, checks the condition of alarm interfaces and notifies their line manager in the event of alarms in accordance with the internal normative documents of the organisation and using appropriate tools; Maintenance of safety equipment at crossings 10. conducts maintenance of automatic signalling equipment at crossings (e.g. inspects, cleans, paints and checks visibility and audibility) without shutdown or changing set parameters in accordance with the internal normative documents of the organisation and the maintenance instructions for the equipment using appropriate tools; 11. Maintenance of safety equipment power supply 12. conducts maintenance of batteries (e.g. measures electrolyte density, cleans the case and parts and measures battery jars using cell testers) without interruption to operation in accordance with the internal normative documents of the organisation and the manufacturer's instructions using appropriate tools;
Knowledge: 1) types and construction of light signals, principles of operation and maintenance; 2) signalling systems of light signals and journey displays; 3) principles of electrical measurements of light signals; 4) types and construction of turnouts, principles of operation and maintenance; 5) types and construction of track circuits, principles of operation and maintenance; 6) principles of operation and maintenance of throttle transformers; 7) traffic manager workstation hardware; 8) types of equipment cabinets, principles of operation and maintenance; 9) types of internal hardware of safety equipment, principles of operation and maintenance; 10) meanings of alarm interface indications; 11) types and construction of automatic signalling equipment at crossings, principles of operation and maintenance; 12) types and construction of batteries, principles of operation and maintenance;

RECURRING COMPETENCES

B.2.2 Recurring competences of Railway Signalling Area Assistant, Level 2	**EstQF Level 2**
Performance indicators: within the limits of their occupational qualification level: 1. Eliminates malfunctions in safety equipment under supervision as part of assistive work;	

2. Immediately informs their line manager of traffic-related malfunctions and coordinates other activities with other units; 3. Maintains the traffic manager work station (telephone and radio equipment, eliminating minor faults, replacing panel lamps, etc.); 4. Immediately informs their line manager of any issues that fall outside the limits of their competence; 5. Documents work and makes necessary record entries; 6. Pays heed to work instructions, technologies and quality requirements as well as the requirements of all relevant legislation (both national and international), including waste management regulations; 7. Works diligently and accurately without endangering human health, property or the environment; 8. Organises the workplace as required and selects appropriate tools in accordance with the nature of the work, ensuring they are in working order and safe before starting work; 9. Strictly observes occupational health and safety requirements when planning work, preparing the workplace, working and organising the workplace, and takes surrounding people and the environment into account in order to prevent occupational accidents; 10. Uses personal protective equipment (appropriate clothing and footwear, safety vest, etc.) and appropriate work methods and techniques that do not endanger life or health; 11. In the event of an occupational accident, performs first aid, calls for professional help and informs the emergency services and the employer of the accident; 12. In the event of a health, commercial, technical or environmental hazard, terminates the work and immediately informs the employer or the employer's representative; 13. Uses all work equipment and tools prudently and properly, according to their operation instructions; 14. Regularly organises and cleans the tools, devices and protective equipment used during work, according to their maintenance instructions; 15. Is open to cooperation, takes part in teamwork, shares all necessary and useful information with others and works towards achieving the best result for all concerned; 16. Participates in continuing vocational training, applies what they have learned in professional work; 17. Estonian language skills levels: understanding and speaking A2; Russian language skills levels: understanding and speaking A2; 18. Maintains different types of safety equipment (e.g. automatic blocking and semi-automatic blocking) and safety equipment of different generations; 19. Uses a computer for information processing, communication and safety at the Basic user level on the Digital Competence Self-Assessment Scale (see Annex 2);
Knowledge: 1) rules for the technical use of railways with annexes; 2) requirements of professional legislation and regulations, meanings of professional terms; 3) requirements of operating on railways; 4) types of communication used on railways; 5) point construction and principles of operation; 6) requirements of signal construction, installation and visibility; 7) principles of hand signalling; 8) requirements of road-blocking equipment; 9) requirements of station-blocking equipment; 10) requirements of interdependence between points, signals and journeys; 11) maintenance requirements of safety and communications lines; 12) principles of road safety for repair, maintenance and construction work; 13) occupational safety requirements; 14) what to do in the event of traffic and occupational accidents; 15) what to do in an emergency situation; 16) principles of first aid at the site of an accident; 17) requirements of notification procedures in the event of railway accidents and incidents; 18) fire safety requirements; 19) principles of waste management; 20) environmental protection requirements.
Assessment methods:

Recurring competences are assessed in an integrated manner as part of the assessment of the other competences listed in the occupational qualification standard.

Part C
GENERAL INFORMATION AND ANNEXES

C.1 Information concerning compilation and certification of occupational qualification standard and reference to classification of occupations	
1. ID of occupational qualification standard in register of occupational qualifications	12-15052019-1.1.2/6k
2. Occupational qualification standard compiled by:	Aleksandr Malõsev, AS Eesti Raudtee Andres Türn, Edelaraudtee Infrastruktuuri AS Anto Looken, SA Raudteekutsed Indrek Süld, AS Eesti Raudtee Mati Lõhmus, AS Eesti Raudtee Tarvi Viisalu, AS Eesti Raudtee Tiiu Poltruk, Edelaraudtee Infrastruktuuri AS
3. Occupational qualification standard approved by:	Transport and Logistics
4. No. of decision of Sectoral Council	12
5. Date of decision of Sectoral Council	15.05.2019
6. Occupational qualification standard valid until	10.04.2024
7. Occupational qualification standard version no.	6
8. Reference to International Standard Classification of Occupations (ISCO 08)	7412 Electrical Mechanics and Fitters
9. Reference to European Qualifications Framework (EQF)	2
C.2 Occupational title in foreign language	
English:	Railway Signalling Area Assistant, EstQF Level 2
Finnish:	Rautatie mekaanikko
Russian:	Механик СЦБ железнодорожного транспорта
C.3 Annexes	
Lisa 1 Language skills level descriptions	
Lisa 2 Scale of self-assessment in digital competence	