



**NATIONAL OCCUPATIONAL STANDARD**

**TRAFFIC CONTROLLER (RAILWAY) LEVEL 6**

**REFERENCE CODE / 12UMS0234-6**

**OFFICIAL GAZETTE DATE-ISSUE / SEPTEMBER 05, 2012 - 28402 (Repeated)**

<b>Occupation:</b>	<b>TRAFFIC CONTROLLER (RAILWAY)</b>
<b>Level:</b>	<b>6<sup>1</sup></b>
<b>Reference Code:</b>	<b>12UMS0234-6</b>
<b>Prepared by:</b>	<b>Turkish State Railways (TCDD) Development &amp; TCDD Personnel Solidarity and Assistance Foundation</b>
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<sup>1</sup> Occupational Qualification Level is determined as Level 6 in the octal (8) level matrix.

## TERMS, SYMBOLS AND ABBREVIATIONS

**MAINLINE:** The line interconnecting the stations and between two station entry signs and lines of stations without turnoff,

**INTERFACE:** Electronic and electromechanical system for inter-communication of systems at the intersection of different signal systems,

**ATC (Automatic Train Control):** Automatic Train Control System,

**ATP (Automatic Train Protection):** Automatic Train Protection System,

**BALISE/ BEACON:** Wayside equipment transmitting the fixed and variable data recordable in ATP, ATC systems to on vehicle system,

**AREA AND TIME PERMIT:** The permit given by the traffic controller for using the area limited for shunting, signal fault or any work for a specific time zone,

**BTM (Balise Transmission Module) :** Balise transmission module,

**MEETING CHANGE:** The announcement of the case of a meeting to be made in a station according to the train schedule is being made in the other station to other stations and trains,

**MEETING NOTICE:** The announcement of the case of a meeting to be made in a station according to the train schedule is being made in the other station to other stations and trains,

**MEETING DETERMINATION:** Determination of the station where one scheduled train and one unscheduled train or two unscheduled trains shall meet,

**MEETING:** Meeting of trains coming from different or opposite directions at a station in the sections where there's single line management,

**TRACTION VEHICLE (TRACTIVE VEHICLE):** Locomotive and rail-car operated by driving power of in-built motor,

**WORK SCHEDULE:** The schedule on which the employee records the works he performs and checks in and out,

**CIRCUIT-CONTROLLED SWITCH:** Block single switch of which positions are monitorable from traffic control center and station control desk,

**AXLE:** Part of wheel set connecting two wheels, carrying loads like a beam and transmitting torque to wheel,

**ELECTRIFICATION:** System made of power lines, substations and their control units for electrical management in the railway transportation systems,

**ELECTRICALLY LOCKED SWITCH:** Block switch equipped with electrical lock, manually-operated, of which positions are monitorable from traffic control center and station control desk,

**SECURITY SYSTEM:** Mechanical signal system which can be arranged by using entry and/or exit signs and switches together and is installed for remote security of stations,

**IMPEDANCE BOND:** Equipment providing continuity of traction return current in insulated track circuit,

**ERTMS (European Railway Traffic Management System):** European Railway Traffic Management System,

**ETCS ( European Train Control System) :** European Train Control System,

**GAUGE:** Safety distance between permanent facilities and railway cars,

**GENERAL TRAIN PLAN:** All documents showing the times of arrival and departure of trains operating in the network,

**GSM-R (Global System for Mobile Communications - Railway):** Mobile communication system providing data transmission of audio and signalling system between the railway operational personnel,

**DAILY TRAIN ANNOUNCEMENT:** The announcement for trains to operate during the day,

**LINE:** Railway,

**ISCO:** International Standard Classification of Occupations,

**CALL FOR HELP:** Notice for the train failing to continue its Circulation for any reason,

**OHS:** Occupational Health & Safety

**STATION FACILITIES:** All facilities within the borders of station,

**STATION:** Location of railway and its facilities used for providing traffic services and passenger and goods transportation,

**SIGNAL:** All audio and visual signals of which definitions are prespecified and which are used for safe and regular traffic,

**DEPARTURE-ARRIVAL SCHEDULE:** The manual showing all times of arrival, stopping, departure to/from stations, meeting and getting ahead of all trains, organization and contacts of passenger trains, traction vehicles of trains, speed of trains, regular and minimum Circulation time, the distance between the stations and including other information related to the trains,

**CATENARY:** Electrification (high-voltage) line,

**CATENARY TRANSFORMER:** The transformer converting 25 KV catenary voltage to 220 V mains voltage,

**RED SAFE CONDUCT:** The permit given for Circulation from a stop signal to the next signal,

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** All kinds of tools, instruments, appliances and devices which are worn, put on or hold by the worker and which protect the worker from one or more hazards arising from the work and effect the health and safety of the worker, and which are designed to suit such purpose,

**SWITCHES ZONE:** Track-circuit section of railway between entry and exit signals on one side of the stations,

**CONTROL PANEL:** Installation in which the personnel in charge regulates the switches by the approval of traffic controller to be obtained,

**LOCOMOTIVE:** Rail system vehicle driven by mechanical power applied on its wheels and moving hauled vehicles attached to its front or back by this movement,

**SWITCH CONTROL SYSTEMS:** System providing control of switches in signalling systems,

**SWITCH MOTOR:** Mechanism changing the position of the switch by remote control, locking it to the final destination and transmitting the switch's position information to the signalling system,

**SWITCH:** Railway facility providing railway cars to pass from one rail to another,

**SWITCHES ZONE:** Track-circuit section of railway between entry and exit signals on one side of the stations,

**OCCUPANCY:** The train being at block, on the way to the station or in (OS) switches zone or such zones being shown as occupied due to failure,

**GETTING AHEAD:** Among two trains going to the same direction, the train at the back getting ahead the train at the front at a station,

**PT (PANTOGRAPH):** In the electrical traction systems, the equipment transmitting the electric energy required by the traction vehicle from the power line (catenary) to the traction vehicle,

**TRACK:** Special-profile railway superstructure member providing uninterrupted and smooth bearing surface for the railway car's wheels and transferring the loads from wheels to the support elements,

**RBC (Radio Block Center):** The system in the GSM infrastructure enabling continuous follow up of trains in the ETCS Level 2 and 3 system,

**RISK:** Potential of loss, injury or other damages to arise from hazards,

**SIDING:** The areas where there's minimum one passing track other than main track enabling the trains to meet and get ahead in the railway traffic,

**CIRCULATION LIMITATION:** Limitation of train Circulation for traffic safety,

**LIMITED CIRCULATION:** The vehicles travelling at lower speeds than their regular speeds without exceeding the limited speed and being capable of stopping immediately when they meet with an obstacle under extraordinary conditions,

**SIGNAL:** Railway traffic facility placed on steel pipe, console or bridges with two, three or four coloured built-in lights, regulating the railway traffic by giving various colour signals, giving automatic or controlled signals,

**SIGNALLING:** Signalling systems used for ensuring safety in the railway traffic and shuntings,

**CONDITIONAL SHIPPING:** Shipping carried out in accordance with some rules other than the rules related to shipping of trains,

**DANGER:** Potential of damage or injury likely to affect the worker or work place and likely to exist in the workplace or to be caused externally,

**TCD TRAFFIC CONTROLLER DIAGRAM:** The document on which time lines, station names and lines, train lines available in the general train plan and other information are pre-printed; the Traffic Controller draws and records the actual train lines by the actual traffic development, developments related to the traffic are recorded,

**TCM:** Traffic's management from the center by communication tools,

**TRAFFIC CONTROL CENTER:** Center where the system required for carrying out the traffic is located, operations related to traffic are carried out and controlled and the instructions are given,

**TRAINGRAPH:** System continuously monitoring, recording in graphics and printing out the train operations in the traffic monitoring centers

**TMS:** Trains management by signals,

**REMOTE CONTROL SWITCH:** Switch controlled from the traffic control center, station control desk or control panel, manually-operated if required, featuring one electric engine, of which positions are monitorable from the control center and station control desk,

**RAILWAY CAR (HAULED VEHICLE):** The rail system vehicle without its own driving power, moved by tracking or pushing by a traction vehicle, suitable for carrying load or passenger,

**LOCAL CONTROL DESK:** The installation for local usage of the system in the stations and sidings in the systems where the traffic is managed by signals,

**HST:** High-speed train,

**RAILWAY ENGINEERING STRUCTURES:** Generally, structures enabling water pass like bridge, culvert.

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## **1. INTRODUCTION**

National occupational standard titled Traffic Controller (Railway) (Level 6) was issued by the Turkish State Railways (TCDD) Development & TCDD Personnel Solidarity and Assistance Foundation assigned as per the provisions of Occupational Qualifications Authority (VQA) Law No. 5544 and “Bylaw on Drawing up National Occupational Standards” and “Regulation on the Establishment, Duties and Operation Procedures and Principles of the Sector Committees of Occupational Qualification Authority” introduced pursuant to the aforementioned Law.

National occupational standard titled Traffic Controller (Railway) (Level 6) was assessed upon receiving the opinions of the related institutions and organizations in the sector, and approved by VQA Board of Directors upon examination of the VQA Transportation, Logistics and Communication Sector Committee.



## **2. INTRODUCTION OF THE OCCUPATION**

### **2.1. Definition of the Occupation**

Traffic Controller (Railway) (Level 6) is the traffic director who directs the traffic of all trains and railway vehicles, supervises that the instructions he gives are fulfilled, makes the decisions on train options and takes interim measures in unplanned and traffic effecting cases in the line section assigned for his management by using the traffic systems within the scope of OHS, environmental protection, quality rules and procedures, within its authority and according to the defined duty instructions.

Traffic Controller is responsible for the accuracy, timing and quality of the tasks he performs individually. In the performance of works, he works in accordance with the work instructions and informs the failures and defects outside his area of responsibility to the relevant persons in charge.

Taking measures related to his own occupational safety and making contributions to the occupational safety of the other persons working with him are included in the responsibilities of the Traffic Controller (Railway) (Level 6).

### **2.2. Place of the Occupation in International Classification System**

**ISCO 08:** 4323 (Transport Clerks)

### **2.3. Regulations on Health, Safety and Environment**

Labor Law No. 4857

Social Security and General Health Insurance Law No.5510

Regulation on Heavy and Dangerous Work

Regulation on Procedures and Principles of Occupational Health and Safety Trainings of the Employees

Regulation on Electrically Powered Current Facilities

Regulation on Noise

Regulation on Safety and Health Signs

Regulation on Preparation, Completion and Cleaning Works

Regulation on Conditions of Health and Safety in Using Work Equipment

Regulation on Health and Safety Measures to be taken in the Workplace Buildings and Additional Buildings

Regulation on Control of Solid Wastes

Regulation on Use of Personal Protective Equipments in the Workplace

Regulation on Control of Hazardous Wastes

Furthermore, it is essential to obey laws, statutory rules and regulations on occupational health and safety and environment; and to perform risk analysis regarding this issue.

## **2.4. Other Legislation Regarding the Occupation**

Public Servants Law No. 657

Trade Unions Law No. 2821

Collective Bargaining Agreements, Strike and Lock-Out Law No. 2822

Government Employee Unions and Collective Bargaining Law No. 4688

Decree Law Concerning Regulation of State Economic Enterprises Personnel System Law No. 399  
and Repealing Some Articles of Decree Law No. 233

And it is essential to obey other current legislations, laws, statutory rules and by-laws related to occupation.

## **2.5. Working Environment and Conditions**

Traffic Controller (Railway) (Level 6) works in a closed, heat and sound insulated, illuminated, ventilated, humidity and temperature controlled, dust, dirt or factors of dust and dirt removed and secured environment. Provided that they're not above the international standards; risk of exposure to negative effects in the electromagnetic area emitted by electrical/electronic devices, risk of catching occupational diseases like blood circulatory disorders due to continuously sitting, slipped disc and cervical disc hernia, stress-related neurological disorders and sleep disorder due to working in shifts may be included in the negative working conditions of the Traffic Controller (Railway) (Level 6).

There are also damage and injury risks which require taking occupational health and safety measures while performing the work. Traffic Controller (Railway) (Level 6) cooperates with the employees carrying out different works and uses the appropriate personal protective equipment during his operations.

## **2.6. Other Requirements Regarding the Occupation**

Traffic Controller (Railway) (Level 6) shall have the health and psychotechnics reports regarding that his physical qualifications are full.

### 3. OCCUPATIONAL PROFILE

#### 3.1. Duties, Tasks and Performance Criteria

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
A	Applying occupational health and safety, fire and emergency rules	A.1	To apply legal and workplace rules regarding occupational health and safety	A.1.1	Participates in trainings related to Occupational Health and Safety for understanding the norms.
				A.1.2	Ensures availability of first aid, emergency medical intervention or personal protective equipment related to OHS as ready for use and operative.
				A.1.3	Ensures that the work clothes and personal protective equipment (PPE) suitable for the work performed.
				A.1.4	Contributes to the safety of work area and other employees by placing and protecting the warning signs related to the work in accordance with the company's instructions.
		A.2	To decrease risk factors	A.2.1	Contributes to the activities related to determination of risks.
				A.2.2	Contributes to the activities related to determination of risks by assessing the hazards and risks related to his work within the scope of the national regulations and standards.
				A.2.3	Contributes to the activities for decreasing risk factors.
		A.3	To apply emergency procedures in case of emergency	A.3.1	Carries out the activities of taking measures to determine the cases of emergency and eliminate them rapidly.
				A.3.2	Informs the cases of emergency which are impossible to eliminate instantly to the authorities.
				A.3.3	Carries out the works described in the emergency procedure.
				A.3.4	Applies the exit or escape procedures in cases of emergency.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
<b>B</b>	Fulfilling the provisions of environmental protection legislation	<b>B.1</b>	To assess environmental hazards	<b>B.1.1</b>	Carries out the environmental impact assessment related to the performed activities and assesses potential risks.
				<b>B.1.2</b>	Participates in periodic trainings for environmental protection requirements and practices.
				<b>B.1.3</b>	Carries out the activities related to elimination of determined environmental hazard sources and risk factors.
		<b>B.2</b>	To ensure environmental protection measures are applied	<b>B.2.1</b>	Ensures the measures are taken for the environmental impacts to occur during the performance of work processes in accordance with the company's instructions.
				<b>B.2.2</b>	Ensures that the wastes occurred during the performance of work processes are disposed in accordance with the company's instructions.
				<b>B.2.3</b>	Takes measures related to safe and healthy operation of device, equipment and tools used against negative environmental impacts to occur.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
C	Working in accordance with the quality management system regulations	C.1	To control the quality of works performed	C.1.1	Applies the quality assurance principles and procedures in accordance with the company's instructions stated in the task forms.
				C.1.2	Ensures that the devices and tools used in the work processes are operated in accordance with the conditions described in the quality assurance rules and procedures.
				C.1.3	Supervises the conformity of the tasks performed to the standards.
				C.1.4	Fills in the quality management system forms related to the work .
		C.2	To participate in the activities related to prevention of faults and defects determined in the processes	C.2.1	Informs the faults and defects determined during the works to the relevant chief/authority.
				C.2.2	Participates in the research and assessment activities related to determination of reasons for faults and defects.
				C.2.3	Submits his and his team's observations, ideas and suggestions for improvement of work processes and elimination of faults to the relevant authority in accordance with the company's rules and procedures.
				C.2.4	Applies and ensures the application of the company's rules and procedures related to the fault and defect repairs.
				C.2.5	Informs the faults and defects outside his authority or he fails to repair to the relevant authority.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
<b>D</b>	Making pre-work preparations (To be continued)	<b>D.1</b>	To make personal preparations	<b>D.1.1</b>	Carries out his personal care and cleaning in accordance with the rules determined by the workplace.
				<b>D.1.2</b>	He wears his clean, ironed and well-groomed uniform in accordance with the rules determined by the workplace.
				<b>D.1.3</b>	Is present in the workplace at the time stated in the work legislation before the work starts.
				<b>D.1.4</b>	Carries out the tasks related to the control documents of work attendance (such as clocking in, signing and etc.).
				<b>D.1.5</b>	Wears identification symbols and signs on his work clothes.
		<b>D.2</b>	To investigate the work area	<b>D.2.1</b>	Inspects the conformity of work area to the duty.
				<b>D.2.2</b>	Contributes to the improvement of the negative aspects of the works.
		<b>D.3</b>	To prepare the equipment and material for work	<b>D.3.1</b>	Selects the equipment and material in accordance with the instructions given.
				<b>D.3.2</b>	Makes the equipment and material available for work.
				<b>D.3.3</b>	Repairs the faults and defects of the defective equipment and material under his authority.
				<b>D.3.4</b>	Informs the related authorities for replacement/repair of defective equipment and material.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
D	Making pre-work preparations (To be continued)	D.4	To review documents to effect his duty	D.4.1	Reads daily orders carefully.
				D.4.2	Signs the orders he reads for confirmation.
				D.4.3	Prepares the TCM Traffic Controller diagram he shall use.
				D.4.4	Reviews the daily train announcement.
				D.4.5	Reviews the notices of trains excluded from and included in the Circulation.
				D.4.6	Reviews the track block telegraphs.
				D.4.7	Reviews the speed limitation telegraphs.
				D.4.8	Reviews the system fault log.
		D.5	To be informed of the switch zone he shall take over (To be continued)	D.5.1	Is informed of the locations of trains in the switch zone.
				D.5.2	Is informed of the locations of trains approaching the switch zone.
				D.5.3	Is informed of the trains' transfer status.
				D.5.4	Is informed of the trains' notice of departure status.
				D.5.5	Is informed of the trains' shunting status at the stations.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
D	Making pre-work preparations	D.5	To be informed of the switch zone he shall take over	D.5.6	Is informed of the vacant-occupied track status of stations and sidings.
				D.5.7	Is informed of the studies regarding system failure repair.
				D.5.8	Is informed of the personnel of the stations and their working hours.
				D.5.9	Is informed of emergency traffic applications.
				D.5.10	Is informed of the trains and their times permitted for red safe conduct and zone time.
				D.5.11	Is informed of the trains transferred with special condition.
		D.6	To be informed of the permits given for track block and work in the switch zone	D.6.1	Is informed of which times and between which stations is the blocked zone.
				D.6.2	Is informed of why the said zone is blocked.
				D.6.3	Informed of the number of track maintenance vehicles in the blocked zone.
				D.6.4	Informed of type of track maintenance vehicles in the blocked zone.
				D.6.5	Is informed of the planned park station of the track maintenance vehicles.



Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
E	Planning traffic	E.1	To determine meeting and getting ahead locations of trains by order of priority	E.1.1	Decides the orders of priority of trains by assessing their specifications.
				E.1.2	Plans meeting of trains by their orders of priority.
				E.1.3	Plans trains getting ahead by their priorities.
		E.2	To assign time period to the maintenance and repair works	E.2.1	Directs the train traffic to block the track on the scheduled work start time.
				E.2.2	Determines the start time and period of works requested as unscheduled by the locations of trains in his zone.
				E.2.3	Plans the waiting stations of trains to be stood by due to work.
				E.2.4	Informs the time period and times to be permitted to the authority of team to carry out the work.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
F	Carrying out the procedures for train transfer (To be continued)	F.1	To give transfer instructions	F.1.1	Calls the stations to be transferred by the system communication tool.
				F.1.2	Gives the transfer order according to the legislation.
				F.1.3	Listens to the repeated transfer order of station to transfer.
				F.1.4	Listens to the repeated transfer order of the stations to be transferred.
				F.1.5	Ends the call by confirming that the transfer order is understood.
		F.2	To carry out the meeting of scheduled and unscheduled trains	F.2.1	Calls the station to be transferred by the system communication tool.
				F.2.2	Carries out the determination of train numbers determined to meet, station to be met at, names of station to transfer, station to be transferred.
				F.2.3	Listens to the repeated determination of station to be transferred and station to accept.
				F.2.4	Ends the call by confirming that the determination is understood.
		F.3	To carry out the meeting to be actualized before the planned meeting station	F.3.1	Calls the station to be transferred by the system communication tool.
				F.3.2	Carries out the notice procedure including the train number of which meeting station is advanced, number of train to be met, names of the station to transfer and meeting station to be transferred.
				F.3.3	Listens to the repeated notice of station to be transferred.
				F.3.4	Listens to the repeated notice of station to accept.
				F.3.5	Ends the call by confirming that the notice is understood.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
F	Carrying out the procedures for train transfer (To be continued)	F.4	To carry out the meeting to be actualized after the planned meeting station	F.4.1	Calls the station to be transferred by the system communication tool.
				F.4.2	Carries out the procedure for change of meeting including meeting station, delayed train number, number of train to be met, names of station to transfer and station to be transferred.
				F.4.3	Listens to the repeated transfer order of station to transfer.
				F.4.4	Listens to the repeated transfer order of station to accept.
				F.4.5	Ends the call by confirming that the change of meeting is understood. .
		F.5	To carry out the procedures for notice of departure	F.5.1	Calls the station to which the train is transferred.
				F.5.2	Announces that notice of departure shall be made.
				F.5.3	Listens to the transferring station's notice of departure including the train number, axle and time of departure.
				F.5.4	Listens to the confirmation of the transferred station's notice of departure including the train number, axle and time of departure.
				F.5.5	Ends the call by confirming that the notice of departure is understood.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
F	Carrying out the procedures for train transfer	F.6	To position the switches to be used for train transfer/ensure that the switches to be used for train transfer are positioned as required	F.6.1	Sends code to the remote controlled engine-powered switches by using panel/computer.
				F.6.2	Monitors whether the switch conforms or not on the control panel.
				F.6.3	Regulates the switch of which it's failed to receive the conformity information manually.
				F.6.4	Unlocks the electrical lock/ensures that the electrical lock is unlocked of electrically locked switch.
				F.6.5	Monitors the position of the electrically locked switch on the panel.
				F.6.6	Regulates the circuit-controlled switch/switches/ensures that the circuit-controlled switch/switches are regulated.
				F.6.7	Gets guarantee that the circuit-controlled switch is regulated.
		F.7	To turn on signal for train transfer	F.7.1	Selects the station, transfer track and Circulation, signal via computer.
				F.7.2	Codes and verifies the procedure to turn on the signal.
				F.7.3	Monitors whether the signal is on or not on the panel and display.
				F.7.4	Informs the signal failing to operate to the signal team.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
G	Monitoring the train circulations	G.1	To observe the train movements on the panel and display	G.1.1	Monitors the train passing through the switches zone.
				G.1.2	Monitors the train passing through the blocks.
				G.1.3	Monitors the train passing through the stations and circulation times by comparison. .
		G.2	To monitor visual and audio warning and alarm notices on the control panel	G.2.1	Informs the maintenance personnel in case of signal, switch, power and railroad crossing failure alarms.
				G.2.2	Informs the maintenance personnel in case of electrification alarms.
				G.2.3	Informs the maintenance personnel in case of telecommunication failures.
				G.2.4	Records the failures in the fault log.
				G.2.5	Follows up the repair of failures.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
H	Adding into TCM Traffic Controller diagram	H.1	To fill in the heading section	H.1.1	Writes down the date and time of using the diagram.
				H.1.2	Writes down the notes of the day to be considered in the traffic management.
				H.1.3	Writes down the number of trains circulating, number of locomotive, axle, tonnage and length (in meter).
				H.1.4	Writes down the number of trains and zones they shall circulate.
		H.2	To write in the incidents section	H.2.1	Writes down the reasons for delay related to the train.
				H.2.2	Writes down the shunting data related to the train. .
				H.2.3	Writes down the reason for track block permit, time of block and telegraph number.
		H.3	To write in the train movements section	H.3.1	Draws the train lines in the colour determined by the types of train.
				H.3.2	Connects the junction of exit station line on y-axis and the time of departure on x-axis to the junction of arrival station line and time of arrival with a straight line.
				H.3.3	Writes down the times of arrival-departure at the junction of train line and station/time line; and the train number on the train line.
				H.3.4	Writes down the loss by comparing the circulation time by the train schedule with the actual circulation time in minutes below the train line between the related station by circling.
				H.3.5	Shows the given zone and time permit, time and between the station with a pre-determined coloured pen by drawing cross.
H.3.6	Scans the station and time range from blocking time to opening time by circling the area when the track is blocked.				

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
I	Adding into train schedule (To be continued)	I.1	To fill in the officials section	I.1.1	Writes down his check in and out to work.
				I.1.2	Writes down his full name and signs.
		I.2	To fill in the train information section	I.2.1	Writes down the number of circulating trains.
				I.2.2	Write down the train's axle, gross ton and time of departure.
				I.2.3	Writes down the train's locomotive number.
		I.3	To record the railway cars data in the sidings	I.3.1	Writes down the number of railway cars left and the reason for leaving them.
				I.3.2	Writes down the number, date, load, arrival station of the train leaving the railway cars.
				I.3.3	Writes down the train's number taking the railway cars.
		I.4	To record the special permits	I.4.1	Writes down the number of train which is transferred with an axle longer than the determined axle for the line section, number of axles, zone.
				I.4.2	Writes down the number, speed, zone of the train of which speed is slowed down.
				I.4.3	Writes down the number of the train of which braking percentage is decreased, brake percentage, zone.
		I.5	To fill in the section of loaded or unloaded railway cars in the mainline, gauge team railway cars	I.5.1	Writes down the date of loading and unloading in the mainline and number of train.
				I.5.2	Writes down the name and title of the official giving the order of loading and unloading in the mainline.
				I.5.3	Writes down the works performed in the mainline in the notes section.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
I	Adding into train schedule (To be continued)	1.6	To record the load status data in the line section	1.6.1	Records the direction, arrival station, axle and ton of the load ready to be loaded on the train.
				1.6.2	Writes down the arrival station, axle and tonnage of the load not loaded on the train but left for the next day.
				1.6.3	Writes down the station, axle and ton of the load to be left at the station by the trains in circulation.
		1.7	To fill in the section of trains to circulate/to be cancelled other than the daily train announcement	1.7.1	Writes down the type, number and zone of the train put in the circulation.
				1.7.2	Writes down the type, number and circulation zone of the cancelled train.
		1.8	To fill in the section related to red safe conduct/zone time permits	1.8.1	Writes down the location where the red signal is seen.
				1.8.2	Writes down the red signal, number, time of train given safe conduct, the person taking the permission.
				1.8.3	Writes down the block and switch status in case of red safe conduct.
				1.8.4	Records that he shall advance with limited speed after he passes the red signal.
				1.8.5	Writes down the number, time, limits, period of the train of which zone time permit is given and the title and name of the official obtained this permit.
		1.9	To record irregularities related to traffic	1.8.6	Marks that the zone time permit is given for shuntings or red signals,
				1.9.1	Records the irregularities by time, date and priority.
				1.9.2	Records the irregularities in the reports section by assigning inquiry number.



Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
I	Adding into train schedule	I.10	To fill in the statistical data section	I.10.1	Records the train number, time of departure, time of arrival, delay and returns of circulating trains.
				I.10.2	Processes available passenger railway cars.
				I.10.3	Processes organization of passenger trains.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
J	Carrying out shunting procedures / ensure that shunting procedures are carried out	J.1	To carry out shunting by organizing the switches and signals	J.1.1	Plans shunting.
				J.1.2	Stops the train movements in the zone where shunting shall be carried out.
				J.1.3	Arranges switches.
				J.1.4	Assigns the related official to arrange the swiches to be arranged on site.
				J.1.5	Turns on the signal.
				J.1.6	Informs those who manage the shunting regarding how to act in case of signal falinig to turn on.
		J.2	To ensure that shunting activities are re-carried out temporarily	J.2.1	Electrically approves the shunting movements to be made on site.
				J.2.2	Gives zone and time permit for carrying out shunting movements on site.
				J.2.3	Monitors the oerformed shunting movements on the panel and display.
				J.2.4	At the end of shuntings, electrically transfers the remote control on site to the center.
				J.2.5	Is secured by the personnel in charge regarding that the shunting is completed at the end of shunting.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
K	Directing the traffic in cases of emergency (To be continued)	K.1	To direct the traffic in case of notice of tractive and hauled vehicles derailing	K.1.1	Is informed of the place, location and loan of the derailed vehicle.
				K.1.2	Gives instructions for securing the scene.
				K.1.3	Is secured for the security of scene.
				K.1.4	Submits the obtained information to the authorities.
				K.1.5	Ensures that the circulated relief train is essentially transferred to the scene.
				K.1.6	Replans the traffic.
		K.2	To direct the traffic in case it's informed that the tractive vehicle's whistle failed	K.2.1	Carries out transfer of the tractive vehicle until the first station.
				K.2.2	Regulates the traffic by calculating the train's loss of time.
				K.2.3	Informs the number of the vehicle with defective whistle, number and location of train to the authorities.
				K.2.4	Replans the traffic.
		K.3	To direct the traffic in case it's informed that the tractive vehicle fails to advance	K.3.1	Obtains information from the train personnel regarding the location and defect of the vehicle.
				K.3.2	Gives instructions for securing the scene.
				K.3.3	Is secured for the security of scene.
				K.3.4	Informs the tractive vehicle's number, number, location, defect of train, train's axle and tonnage to the authorities.
				K.3.5	Transfers the closest locomotive to the scene.
				K.3.6	Replans the traffic.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
K	Directing the traffic in cases of emergency (To be continued)	K.4	To direct the traffic in case the tractive vehicle informs that it fails to maintain its speed	K.4.1	Learns the speed and location of the train from the train personnel.
				K.4.2	Calculates the estimated time of arrival.
				K.4.3	Replans the traffic.
		K.5	To direct the traffic in case it's informed that the track and engineering structures are disturbed	K.5.1	Cancels the transfer orders given by calling the stations on both sides of the track.
				K.5.2	Cancels the signals designed for the train transfer.
				K.5.3	Instructs the trains and personnel in the mainline to stop the circulating trains.
				K.5.4	Notifies the situation to the authorities.
				K.5.5	Replans the traffic.
		K.6	To carry out traffic procedures in case of railway car and train escape (to be included)	K.6.1	Immediately informs the neighbouring station in the direct of which the railway car escapes, track personnel, siding head station.
				K.6.2	Includes the number and contents of railway cars escaped in his notice.
				K.6.3	Stop instruction is given to the circulating train's personnel against the railway car escaped. .
				K.6.4	Protects the trains circulating and at a distance of minimum one station by sheltering them in the nearest station to where they'll be transferred against the railway car escaped.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
K	Directing the traffic in cases of emergency (To be continued)	K.6	To carry out traffic procedures in case he's informed of railway car or train escape	K.6.5	Organizes / Ensures organization of the switches on the transition track for passing of railway cars, which do not have any train in their route and are unstopable.
				K.6.6	Ensures the circulation of vehicles which has no train/obstacles until a slope where they can stop by themselves.
				K.6.7	Doesn't allow train transfers until the track officials inform that the track is open.
				K.6.8	Replans the traffic.
		K.7	To give red safe conduct in case of signal giving stop notice	K.7.1	Contacts with the stopping train.
				K.7.2	Allows the train authority to use from the signal giving red notice to the first signal
				K.7.3	Listens to the same repetition of the order he gives by the train authority.
				K.7.4	Repeats the order which is misrepeated. .
				K.7.5	Records the number of red safe conduct.
		K.8	To give zone and time permit for the signals giving stop notice	K.8.1	Contacts with the stopping train.
				K.8.2	Allows the train authority from more than one signals giving red notice to the specific signal until the period he determines.
				K.8.3	Listens to the same repetition of the order he gives by the train authority.
				K.8.4	Repeats the order which is misrepeated. .
				K.8.5	Records the number of zone and time permit.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
K	Directing the traffic in cases of emergency	K.9	To carry out diesel operation due to electrification failure	K.9.1	Calls the related department for procurement of diesel locomotive; follows up the result.
				K.9.2	Determines the zone where diesel operation shall be carried out.
				K.9.3	Determines priority order of trains.
				K.9.4	Records the failure; follows up the result.
				K.9.5	Secures the zone where diesel operation is carried out by zone marking on the panel.
		K.10	To direct the traffic in case of failure of system communication tools	K.10.1	Informs the zone and start time of the failure to the authorities; follows up the result regarding failure repair (TCM).
				K.10.2	Determines the way of carrying out the train traffic in accordance with the legislation until the failure is repaired (TCM).
				K.10.3	Directs the train traffic by turning on the signal in the signal zones.
				K.10.4	Informs the failure to the authorities; follows the result.
		K.11	To direct the traffic in case communication is available; however, it's failed to monitor the signals from the control center	K.11.1	The stations are allowed to carry out the train traffic from local in the line sections with local control desk.
				K.11.2	Directs the traffic by red safe conduct, zone and time permits if he fails to turn on the signals.
				K.11.3	Decides on the trains to stand by for security during hours when the traffic is heavy.
				K.11.4	Records the failure; follows up the result.

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
L	Carrying out end-of-work delivery procedures	L.1	To carry out final control operations	L.1.1	Controls whether there are any deficient works left or not according to the work order.
				L.1.2	Arranges the environment if there's any disarrangement in the area he works in the workplace.
				L.1.3	At the end of work, he clears the material, equipment he uses.
		L.2	To clean equipment and work area at the end of the work	L.2.1	At the end of work, he maintains the tools and equipment he uses.
				L.2.2	He takes care of while using materials which may damage the work safety and stores such materials in the determined places properly. .
		L.3	To give information on the trains to the traffic controller he shall transfer his duty	L.3.1	Gives information on the locations of the trains in and approaching to the switches zone.
				L.3.2	Gives information on the transfer order status and notice of departure status of the trains, the shunting status in the stations.
				L.3.3	Gives information on the vacant-occupied track status of the stations and sidings.
				L.3.4	Informs the system failure.
				L.3.5	Gives information on the personnel and working hours of the stations.
				L.3.6	Gives information on the operational obligations.
L.3.7	Gives information on the trains of which red safe conduct and zone time is allocated and their times. .				
L.3.8	Gives information on the trains of which there's special condition in their transfers.				

Duties		Tasks		Performance Criteria	
Code	Title	Code	Title	Code	Description
<b>M</b>	Carrying out professional development activities	<b>M.1</b>	To carry out training planning and organizations	<b>M.1.1</b>	Receives his/her training requirements from the relevant department and assesses them.
				<b>M.1.2</b>	Assesses periodic and ad hoc trainings by time planning.
		<b>M.2</b>	To carry out studies on the individual professional development	<b>M.2.1</b>	Determines his aspects to be developed, professional and personal development requirements.
				<b>M.2.2</b>	Carries out research activities for professional and personal development.
				<b>M.2.3</b>	Follows up new technologies and developments related to his occupation.
		<b>M.3</b>	To give Occupational training to his inferiors and other employees	<b>M.3.1</b>	Shares his/her knowledge and experience with his/her colleagues.
<b>M.3.2</b>	Applies information and trainings related to his occupation.				



### **3.2. Tools, Appliances and Equipment Used**

1. Computer
2. Ruler
3. Colourful Lead Pencils
4. Manuals
5. Forms
6. Communication Tools (wireless, phone, cellular phone, GSM-R, RBC)
7. First Aid Kit
8. Uninterruptible Power Supply
9. Control Switch
10. Switch Lever
11. Eraser
12. TCM Traffic Controller Diagram
13. Traffic Control Desk
14. Train Schedules
15. Traingraph
16. Fire Extinguisher

### **3.3. Knowledge & Skills**

1. Knowledge on emergency case
2. Analytical thinking skills
3. Basic first aid knowledge
4. Knowledge and skills of computer and internet usage
5. Knowledge on tractive and hauled vehicles
6. Multi-dimensional and critical thinking skills
7. Knowledge on railway signs
8. Knowledge on railway traffic
9. Team management skills
10. Knowledge on electrification
11. Knowledge on occupational health & safety
12. Knowledge on the work site operation procedures
13. Knowledge on quality management
14. Mechanics knowledge
15. Knowledge on legal regulations regarding the occupation
16. Knowledge of foreign language at occupational level
17. Knowledge of Occupational terms
18. Skill of learning and being able to share what he learned
19. Knowledge and skills of planning, coordination and direction
20. Ability of problem solving
21. Knowledge on signalling
22. Skills of oral and written communication
23. Skills of stress and crisis management
24. Knowledge on basic labour legislation

25. Knowledge on train preparation
26. Knowledge on train management
27. Knowledge on ERTMS and on-vehicle equipment on HST lines
28. Knowledge on track and route
29. Skills of time management

### **3.4. Attitudes and Behaviours**

1. To be cold blooded and calm under emergency and stressful situation
2. To inform superiors properly and in time
3. To decide within the scope of his knowledge and experience
4. To be able to use working time effectively and efficiently in compliance with work orders and instructions
5. To adopt environmental, quality and OHS rules
6. To transfer his experiences to his co-workers
7. To take initiatives related to his duties, if required
8. To participate in the group meetings actively
9. To be sensitive about the changes to occur during procedures
10. To be sensitive to use of operating assets and recycle
11. To act in accordance with the workplace hierarchical relations
12. To ensure his/her own safety and safety of other people
13. To determine hnegative environmental impacts
14. To be planned and organized
15. To be sensitive to issues of risk and hazard factors
16. To know his/her responsibilities and to fulfill the same
17. To take care of process quality
18. To inform the authorities in cases of danger
19. To detect and assess the cases of danger
20. To pay attention to cleaning, tidiness and workplace organization
21. To be innovative and open to professional developments
22. To inform concerned people about the defects which are not under his/her authority
23. To be able to direct the personnel under his management and his co-workers

#### **4. TESTING, ASSESSMENT AND CERTIFICATION**

Testing and assessment for certification with respect to national qualifications based on Traffic Controller (Railway) (Level 6) Occupational Standard shall be held in written and/or oral forms, theoretically and practically, in testing and assessment centers where required conditions are met.

Testing and assessment method and practice principles shall be detailed with national qualifications to be drawn up pursuant to this occupational standard. Activities regarding testing, assessment and certification shall be conducted within the framework of Occupational Qualification Authority, Testing and Certification Regulation.

## Annex: Institutions Participated In the Occupational Standard Preparation Process

### 1. Occupational Standard Team of the Institution Preparing Occupational Standard:

İsa APAYDIN	TCDD, Vice General Manager
Murat ŞENEKEN	TCDD, Head of Education and Training Department
Yavuz KIRAN	General Manager of TCDD Foundation
Fatma Ülker YETGİN	Project Coordinator
Pınar DEMİREKLER	Quality Process Coordinator
Mehmet EKTAŞ	Department Manager (TCDD Education and Training Department)
Feyzi SIVACI	Department Manager (TCDD Education and Training Department)
Ekrem ARSLAN	Head Clerk (TCDD Education and Training Department)

### 2. Members of Technical Working Group:

Abdurrahman GENÇ	Occupational Group Coordinator (TCDD Vice Head of Traffic Department)
Nurettin İNCE	TCDD Traffic Head Controller
Ahmet İŞVAN	TCDD Traffic Controller
Recep KUTLAY	TCDD Traffic Controller
Muharrem GÜNAYDIN	TCDD Traffic Controller
Şenol AKYOL	TCDD Head Repartitioner

### 3. Advisory Persons, Institutions and Organizations:

Alarko Enterprises  
Anatolian Technical Occupational High School  
Anatolian University Porsuk Occupational School of Higher Education  
Ankara Chamber of Industry (ASO)  
Ankara Chamber of Commerce (ATO)  
Ankaray  
Antalya Metropolitan Municipality  
Atatürk Anatolian Industrial Occupational High School  
Union of Public Employees Related To Independent Transport Services, (BUS)  
Ministry of Science, Industry and Technology  
Union of United Transport Workers (BTS) Bursa  
Public Transport Operations (BURULAŞ)  
Ministry of Labour and Social Security  
Association of Railway Machinists and Wagon Technicians  
Association of Railway Rolling Stock Operators  
Demiryolu Lojistik Müh.San.Tic.Ltd.Şti.  
Association of Railway Workers  
Association of Railway Occupational School Graduates  
Association of Railway Transportation  
State Personnel Administration  
Confederation Of Progressive Trade Unions (DİSK)  
Aegean Region Chamber of Industry (EBSO)  
Ereğli Iron and Steel Plant  
Erzincan University Refahiye Occupational School of Higher Education Rail Systems Prog.  
Eskişehir Light Rail System Corporation (ESTRAM)  
Eti Mining Corporation  
Fatih Anatolian Occupational High School  
Gazi Anatolian Occupational High School  
Hak-ış Confederation

Haydarpaşa Anatolian Technical Occupational High School  
İskenderun Iron and Steel Plant  
İstanbul Chamber of Commerce (İTO)  
İstanbul Ulaşım A.Ş.  
İzmir Metro A.Ş.  
Kayseray  
Konya Metropolitan Municipality  
Small and Medium Enterprises Development Organization (KOSGEB)  
Ministry of Education Directorate General of Life Long Learning  
MEB Directorate General of Occupational and Technical Education  
MEB Directorate General of Innovation & Educational Technologies  
Central Anatolian Technical Occupational High School  
MKE  
Olmuksa Petkim  
Association of Rail Transport Systems  
Rhombert Kalebozan Demiryolu İnş. San. ve Tic. A. Ş.  
Sümer Holding (Iron & Steel)  
Şehit Kemal Özalper Anatolian Occupational High School  
TCDD Directorate of Ankara Training Center  
TCDD Department of Traction  
TCDD Directorate of Eskişehir Training Center  
TCDD Department of Executive Staff and Administrative Affairs  
TCDD Directorate of Sivas Training Center  
TCDD Department of Facilities  
TCDD Directorate General of Traffic  
TCDD Directorate General of Railway Track  
Tüpraş  
Türkiye Demiryolu Makineleri Sanayi A.Ş.  
The Confederation of Turkish Tradesmen and Craftsmen (TESK)  
Turkish Exporters Assembly (TİM)  
The Turkish Employers Association of Construction Industries (İNTES)  
Turkish Statistical Institute (TÜİK)  
Turkish Employment Agency (İŞKUR)  
Confederation of Turkish Trade Unions (TÜRK-İŞ)  
Turkish Confederation of Employer Associations (TİSK)  
Türkiye Lokomotif ve Motor Sanayi A.Ş.  
Turkish Union of Chambers and Exchange Commodities (TOBB)  
Turkish Union of Transportation Services and Public Employees-Türk-Ulaşım Sen (TUS)  
Türkiye Vagon Sanayi A.Ş.  
Union of United Transportation Employees (Ulaşım Bir-Sen)  
Union of Transportation Employee Rights (Ulaşım Hak-Sen)  
Official Unions of Transportation Employees (UÇMS)  
Union of Active Transportation Officials Ulaştırma Faal-Sen (UFS)  
Union of transportation and Railway Employee Rights (Udem Hak-Sen)  
Ministry of Transportation, Maritime Affairs and Communications  
Yapıray  
Yıldız Entegre (Tügsaş)  
Council of Higher Education (YÖK)  
Yüksel Proje

#### 4. Members and Experts of VQA Sector Committee

Prof. Dr. Mustafa KARAŞAHİN,	President	Board of Higher Education
Şeyhamit Ünal SARIBAŞ,	Vice President	Ministry of National Education
Nasip Gül İNCEKARA,	Member	Ministry of Labour and Social Security
Edip TÜRKEY,	Member	Ministry of Energy and Natural Resources
Ahmet VURAL,	Member	Ministry of Industry and Trade
Erkin GÜNER,	Member	Ministry of Transportation
Burak ERDEM,	Member	Turkish Confederation of Employer Associations
Mehmet KARABÜBER,	Member	Confederation of Workers' Trade Unions
Hakan BEZGİNLİ,	Member	Turkish Union of Chambers and Exchange Commodities
Nizamettin ATEŞ	Member	Confederation of Turkish Tradesmen and Craftsmen
Dilek TORUN,	Member	Occupational Qualification Authority
Firuzan SİLAHŞÖR,	Department Head	Occupational Qualifications Authority
Sinan GERGİN,	Representative of Sector Committee (Administration for Disabled People)	

#### 5. VQA Board of Directors

Bayram AKBAŞ,	Representative of Ministry of Labour and Social Security	President
Prof. Dr. Oğuz BORAT,	Representative of Ministry of National Education	Vice President
Ass.Prof.Dr. Ömer AÇIKGÖZ,	Representative of Council of Higher Education	Member
Prof. Dr. Yücel ALTUNBAŞAK,	Representative of Professional Organizations	Member
Celal KOLOĞLU,	Representative of Turkish Confederation of Employer Associations	Member
Dr. Osman YILDIZ,	Representative of Confederation of Turkish Trade Unions	Member