SAFETY – CONDITIONS FOR CORRECT WORK!

IMPORTANT NOTICE: The Hebrew version of the Safety and Security Regulations shall be the prevailing version in case of discrepancy between the English and the Hebrew version.

SAFETY APPENDIX

FOR THE EXECUTION OF VARIOUS WORKS ON THE RAILWAYS PREMISES

This safety appendix replaces any other safety appendix predating October 10th 2010

Chapter A – Definitions

1. **Definitions/ terms**

1.1 **Measures of protective for workers near the tracks** – the measures to protect and warn a group of workers near the tracks, such as: horn sign, caution orders, separation fence, etc.

1.2 **Occupational health and safety** – Occupational safety, occupational health and wellbeing.

1.3 **Construction and engineering construction** – as defined in the Work Safety Ordinance (New Version), 5730 – 1970 (hereinafter – the Work Safety Ordinance) and in the Work Safety Order (Engineering Construction Work), 5722 – 1961.

1.4 **Risk control** – Choosing and applying means for the elimination or minimization of risks.

1.5 **Risk factor, hazard** – a source, situation or action that may be harmful and lead to personal injury or ill health or a combination of these.

1.6 **Risk assessment** – the quantitative and qualitative determination of the value, or the level of the harmful effect of a hazard, taking into account compatibility with existing control measures and determining whether the risk is acceptable.

1.7 **Safety training** – training given to workers on the railway premises pursuant to the Workers Information and Training Regulation (5759 – 1999) by a suitably qualified professional, depending on their role and the hazards they are exposed to.

1.8 **Hazard identification** – prediction, identification and documentation of risk factors present in the work process and the work environment.

1.9 **A hazardous event** – a work accident, safety incident or occupational disease.

1.10 **A trained person** – as defined in the Work Safety Regulations (First Aid in the Workplace), 5758 – 1988.

1.11 **Occupational disease** – a disease that affects the employee or his health, as a result of his work or occupation, as a result of continuous and significant exposure to a risk factor, recognized to have a causal relationship between the exposure to it and the disease, according to the Accidents and Occupational Diseases Ordinance (Notification), 1945 (hereinafter – the Accidents and Occupational Diseases Ordinance).

1.12 **Foreman** – (for construction works) – a person certified by the Ministry of Labor and Social Affairs to serve as foreman. The foreman must comply with the safety at work regulations, and take appropriate steps to ensure that every worker complies with the regulations relating to his work.

1.13 **Supervisor** – a Railways worker or employee of a management company/ supervision company on behalf of the Railways, fulfilling the role of supervisor on behalf of the Railways over the execution of the

works by the contractor.

1.14 **Railway track safety observer (Observer)** – a Railways worker or employee on its behalf that is not a part of the group of employees and whose role is to observe the trains approaching to the activity site of the worker/s and to warn about them immediately.

1.15 **Safety Warden** – as defined in the Regulations of the Organization for Labor Safety (Safety Wardens), 5756 – 1996.

1.16 **Track** – a system of steel rails installed on sleepers that have a fixed width designated for the movement of a train car.

1.17 **Active track** – a track that has train traffic in the course of work being executed in its vicinity.

1.18 **Obstacle** – an irregular state or obstacle expected to harm human health.

1.19 **Horizontal junction** – a track and road crossing through each other in one plane.

1.20 **A work site** – any of the following: (according to the Regulation for Preparing a Safety Management Program, 2013)

(a) - A plant within its meaning in the Safety at Work Ordinance, employing at least 50 workers.

(b) - A place where construction or engineering construction is carried out by a performing entity employing at construction sites, in person or through subcontractors, at least 5o workers simultaneously.

(c) - A place that includes the work areas or places specified in the Schedule employing at least 50 workers. The Labor Inspection Organization Regulations (Safety Management Program) – 2013.

(d) - A plant or place, including those listed in paragraphs (a) - (c) whose number of workers is smaller than those specified in the above paragraphs, instructed by a regional work supervisor to prepare a written safety management program due to the risks the supervisor believes to exist, and listed in the instruction.

1.21 **Environmental Occupational Monitoring** – measuring the exposure levels to the risk factors in the work environment, assessment of the exposure levels and their monitoring.

1.22 **Mobile engineering vehicle** – an engineering vehicle that moves on its own on the track.

1.23 **Risk Analysis** – summarization of possible incident scenarios, following the identification of the presence of risk factors; assessment of the probability of their occurrence due to the presence of the risk factors; assessment of the hazardous incidents outcomes, should they happen; integrative calculation of the hazard level derived from the previous assessments.

1.24 **Risk safety** – a combination of the probability of occurrence of a hazardous event or exposure to a risk factor or factors, and the severity of the injury, or damage to health the event or exposure might cause.

1.25 **Preliminary survey** – as defined in the Safety at Work Regulations (Environmental Monitoring and Biological Monitoring of Workers Exposed

to Harmful Factors), 5771 – 2011 (hereinafter – the Monitoring Regulations.)

1.26 **Safety Order 51831** – a safety order issued by the Health and Safety Manager at the Ministry of Economy determining the safety provisions for work carried out in the vicinity of the railway tracks.

1.27 **Railway track observer –** a contractor's worker who was certified by Israel Railways to serve as a Railway Track Observer, whose task is to observe trains approaching the area of worker/s activity situated beyond the dividing fence, at a distance of more than 2.31 meters and give an immediate audible warning of their approach.

1.28 **Personal protective equipment** – equipment intended for the personal use of the person at work, specially designed for his protection against a risk that might affect his safety or health as set out in the regulations.

1.29 **Engineering machinery** – various mechanical tools for various engineering work in the field of development, infrastructure, civil, industrial and commercial engineering.

1.30 **A group of employees** – one employee or more whose job is to work close to/or on an active track.

1.31 **Contractor** – an organization or individual engaged in the construction of a structure, the manufacturing of a product or the provision of a service, in accordance with a contract signed between him and a client – the entity receiving the structure, product or service.

1.32 **Subcontractor** – an individual or a company, who accept to perform work for another manufacturer that has a larger contract for the performance of work (who is the main contractor).

1.33 **Line under construction** – a rail in the process of construction or rehabilitation or dismantling.

1.34 **Train/ Train car** – a locomotive and any other vehicle traveling or being dragged on the tracks.

1.35 **Accident** – a one-time event, realizing the potential of a risk factor or an obstacle is fulfilled resulting in damage being caused to health.

1.36 **Work accident** – an accident that occurred to a worker in the course of and following its work for an employer or on its behalf, and to an independent worker – as a result of his engaging in his occupation.

1.37 **Railway tracks area** – a distance of 2.31 meters on each side from the center of the track as defined in Chapter 5 of the Schedule Appendix.

1.38 **A systematic and proactive program** – an implementation plan for realizing the objectives, characterized by proactive steps and advance planning ahead.

1.39 **Annual Plan** – a plan updated annually with details the actions to be taken, including those responsible for the execution of each such action and the time for the completion of its execution.

1.40 **Taking over a railway track** – a procedure by which the management of the traffic on the track at a segment or within the station is transferred from the responsibility of the Operation Department to the responsibility of the person responsible for taking over the railway track.

1.41 **Safety Incident** – an event during which the potential of a risk factor or an obstacle is fulfilled without harming a person, including a dangerous

incident within its meaning in the Accidents and Occupational Diseases Ordinance.

Chapter B – General

1. General Safety Subjects and Contractor/ Company Responsibility

1.1 It is possible that safety regulations for the execution of a particular work will be written up in more than one chapter and therefore all the chapters must be read thoroughly and referred to. It is hereby emphasized, that all that is stated below supplements, and does not detract from, any regulation and/or law.

1.2 The Contractor/ executing company (hereinafter: "The Company" or "The Contractor"), are solely responsible for the work safety in the vicinity of the railway tracks and/or in any other Railways site where the work is being executed or the service is being provided to the Railways. It is their full responsibility to take all the necessary steps, including those to be detailed below, in order to prevent damage to a train, or a worker and equipment from a train and/or as a result of the course of the execution of the work or the service. The Company/ Contractor's workers, in respect of this safety appendix, include all the workers taking part in the execution of the contract, including the workers of Subcontractors of the Contractor, including workers of subcontractors of these Subcontractors, etc.

1.3 The representative of the executing company represents that he has visited the site of the execution of the work and its surrounding areas, and has examined the access roads to the site, as well as all the conditions and circumstances related to the execution of the works, including the nature of the risks involved therein, and that he has the tools, the means, the materials, the skills, the knowledge and the suitable manpower for the execution of the work, while fully complying with and upholding all the caution and safety rules, whether under any law or pursuant to the Israel Railways safety regulations and procedures or pursuant to the instructions of the Railways Safety Warden, including the extraction and rescue of workers.

It is the responsibility of the Company to ensure that all its workers and those acting on its behalf, who are employed in the work, will comply with all the safety directives as stated above.

1.4 Compliance with all provisions of any law, regulation, standard, local regulation dealing and relating to safety and health applying to the Contractor according to law and the agreement with the Israel Railways Company Ltd. This safety appendix, the directives and requirements derived from it complete and supplement any compulsory provision of the law and does not exempt and/or detract and/or minimize any requirement and lawful directive under the law.

1.5 The Company will ensure that the work site will be clear of equipment, debris and materials that create safety, hygiene and ecological hazards and in any event will ensure their removal immediately upon completion of the work.

1.6 Prohibition on infringing on the minimum circumference of the structure – materials or tools of any kind may not be places within the minimum circumference of the structure as stated in Chapter 5 of the Schedule Appendix.

1.7 Prohibition on carrying out explosions in the vicinity of the tracks – no explosion work may be carried out or permitted on the rails or in their vicinity without obtaining the prior written consent of the Safety VP.

1.8 The contractor may not operate/ use Railways' equipment items (machines, tools) for the execution of the work.

1.9 It is forbidden to light fires within the boundaries of the Railways compounds without obtaining prior written consent and, in any event, the responsibility for damages that may be caused by the lighting of these fires will rest with the Contractor/ executor of the work. For safety instructions in hot works see section 9 of this chapter.

1.10 The Contractor's employees' hours of work will be determined in accordance with the relevant legislation.

1.11 Workers under the age of 18 years may not be employed.

1.12 The Contractor will only employ workers who underwent occupational medical examinations, in accordance with the obligation specified in the relevant legislation pertaining to the employees, according to the risks in their work.

1.13 It is the Contractor's responsibility to make sure that all items of equipment used by his employees are in good condition.

1.14 Israel Railways management reserves the right to add or change these safety instructions in the future.

1.15 In any event where this safety appendix is translated into another language, the text of Hebrew edition shall prevail.

1.16 It is strictly forbidden to block the field of vision of a vehicle approaching an unprotected road – track intersection.

1.17 In any case of an emergency situation on the railway track, the Railways Command is to be informed, via phone: North Command 04-8564104 or South Command 04-8564115.

2. Rules of conduct for workers in the vicinity and on railway tracks

2.1 Crossing a track or moving between cars

2.1.1 As a rule no employee will cross a track while going over or under cars.

2.1.2 If for the purpose of fulfilling his job an employee is required to cross the track between parked cars, he must take the following precautions:

a. Ensure there is train car movement on the tracks he wishes to cross.

b. Crossing the track where a car is parked will be done at least 5 meters away from the end of the car.

c. The employee will not cross the track between two rows of cars, unless the distance between them is at least 11 meters.

2.1.3 If for the purpose of fulfilling his job an employee is required to cross the track above parked cars and he has no other way of cross the track, he shall do so in the following manner:

a. In a passenger car – through the car entry doors.

b. In a freight car equipped with a balcony, he will go through the balcony.

c. In other cars, crossing is prohibited.

d. The employee received approval from the shift manager/ shunting supervisor.

e. Prior to the approval of the shift manager/ shunting supervisor to crossing the track over parked cars, he shall ensure that the crossing of the track is required for the execution of the work and there is no other safe way to cross the track. In addition he shall ensure that the line of cars is parked and there is no intention to move it until the end of the crossing.

2.2 Administrative crossing of an active track

2.2.1 Crossing a track for administrative purposes, not on a regulated passage, is not permitted.

2.2.2 Before crossing a railway line one must proceed with caution up to the approved crossing point which is located approximately 2.5 meters or more before the tracks.

2.2.3 Before crossing, one must stop, look to both directions, and only after ensuring no traffic is approaching on the tracks (movement of train cars of any kind) the tracks are to be crossed safely. If the direction of the car movement is not clear, do not cross.

2.2.4 If a moving car is identified, do not cross. Wait until the car has passed and only then safely cross the tracks.

2.2.5 Do not linger during the crossing of tracks – a minimum amount of time is to be spent on the track and its surrounding area, however do not run while crossing the tracks.

2.2.6 After completing the crossing move away from the track, vacate the track's surroundings and leave room for others to cross.

2.2.7 In places where there are more than one tracks, crossing is permitted only when all the tracks are observed and free of trains. In this situation, one must look to both directions once more between each rail.

2.2.8 When crossing a track, the person crossing the track must be focused on safety. Do not carry out any action which may distract or impair his field of vision – including:

a. Cellphones are not to be used (calls, messages, information).

b. Headphones in the ears may not be used when crossing.

c. Items of clothing hindering field of vision, such as a hat, coat, etc., should be removed.

2.2.9 The signposts in the crossing must be complied with.

2.2.10 Signaling measures on an administrative crossing must be obeyed as well as the signals they give. However, even if the signaling measures allow crossing, before the beginning of the crossing check there is no car movement on the track.

2.2.11 In the event you become "trapped" between two trains in motion,

lay on the ground between the rails face down.

2.2.12 Wherever there is an overhead pedestrian bridge or underground pedestrian crossing, they must be used for crossing.

3. Workers protection

3.1 Safety instructions for works at a distance less than 5 meters from the center of an active track track will in conformance with the requirements of Safety Order 51831 issued by the Department of Labor Supervision (Chapter P in this appendix) or any other directive that will replace it.

3.2 The relevant Division/ Premises Safety Warden will consider issuing a caution order for the protection of the workers, in accordance with the contents of the works in the vicinity of the railway tracks and based on the safety plan of the works planned to be performed.

3.3 The directives of the safety order will be carried out according to the operation instructions of the Railways.

3.4 On the approach of a train or when a warning sign was received from a railway track safety observer. Railway observer, the team leaders/ foremen will see to the immediate evacuation of any group of workers and their equipment from the railway track grounds. The group of workers will stand aside, in safe places, so as not to be endangered by trains passing on the railway tracks close to the place of work or on parallel tracks without being observed.

3.5 The contractors working in the vicinity of the railway track must be prepared for the possibility of the posting of warning signs as detailed below:

No.	Sign name or other signal	The appearance of the sign or other signal	Sign dimensions cm			Sign description		Comments
			Height	Width	Diameter	Letter color	Background color	
1.3.18	**Siren**	**Meaning**: the driver must blow the horn on the place the sign is located and in continuation as described below in paragraph 1.4.10 in this chapter						To be installed on the same pole with the signs 1.3.19 and 1.3.20 (see below)
		צ	30	30		Black	white	
1.3.19	**Precedes the sign "Protection of a group of workers"**	**Meaning:** pay attention, at a distance of 1500 there is a group of workers in the vicinity of the railway track						Circle with vertical yellow- white strips, strip width 5 cm. To be installed about 1500 m from the workplace on the railway track
		1500 m			60	Black		
1.3.20	**"Protection of a group of workers"**	**Meaning:** pay attention, at a distance of 1000 there is a group of workers						Circle with horizontal green-white strips, strip width 5 cm. To be installed about 1000 m from the workplace on the railway track
		1000 m			60	Black		

The height of the posts on which the individual signs will be mounted is approximately 1.71 – 2.11 meters.

3.6 On completion of the works, the foreman/ team leader in cooperation and coordination with the Safety Observer will remove the warning signs.

3.7 The location where the railway track safety observer/ track observer is to be posted will be determined together with the workers' foreman/ team leader, the Railways Safety Officer and the Safety Warden, in accordance with the conditions in the area and at a location from which it will be possible to see approaching trains and to warn the group of workers of their approach. If this condition cannot be met, more than one railway track safety observer must be posted.

3.8 Each of the group workers will raise his hand as a sign for the driver of the car that his warning was heard. A railway track safety observer/ track observer present in the vicinity of the railway track and hearing the driver's horn will signal to the approaching train driver that all is right for the passing of the train.

3.9 If a railway track safety observer/ track observer notices any danger from an approaching train (no signal was heard, the train is slowing down, or there is a need to stop the train before the place of the works, etc.) he must warn the group by blowing a horn and the train driver by displaying the suitable signs. In this case the team leader/ foreman will take care of the immediate evacuation of the workers, together with the tools and the equipment, from the railway track grounds.

3.10 In poor or difficult visibility conditions (such as haze, stormy weather,

strong rain, etc.) when it is not possible to notice signs from a distance that enables stopping the train before the place of the works, the team leader/ foreman and/or the railway track safety observer/ track observer shall stop the work at the place immediately until conditions allow for its resuming.

3.11 Installing a safety fence between the job site and an active track:

Pursuant to Safety Order 51831 a safety fence separating the job site and all active tracks must be installed, to prevent a worker and/or equipment and/or machine from nearing an active track and passing trains.

Following are the characterization of the separation fence:

Mesh: "Australian mesh" with variable openings. The height of the fence will be at least 1.40 meters.

Poles: “Yscor” (Y) with a length of 1.80 meters.

The poles are inserted into the ground at a depth of 40 cm.

The distance between the fence poles is 4 meters.

Support: Yscor (Y)

The support is installed at each tenth pole and/or in corners or changes of direction

The support is tied to the pole with a double string, 2 mm thick.

Connection fittings: the mesh is tied to the fence poles at 4 points

The connection is made with a 1.6 mm string.

Anchoring: In places where it is not possible to inert the fence poles into the ground (communication, electricity infrastructure, train platforms at stations and in other places) the poles must be installed on a prefabricated concrete foundation with the dimensions 60/30/10, when the fence pole is inside the foundation.

Marking: for the whole length of the fence, on its upper side, a white marking tape will be stretched.

The contractor will install a dividing fence as above on the sector where the work is performed. The fence will be installed at a distance of no less than 2.31 meters from the route of the active track, in the direction of the work area. The length of the dividing fence will extend at least 30 meters beyond the work area in each direction. Notwithstanding the above, the length of the fence in the work areas, its location and other requirements will be determined by the Railways Safety Warden at his discretion, according to the nature of the work and the risk assessment. The erection/ dismantling and change of location of the dividing fence will be carried out under the supervision of the Railways Safety Warden. Specific instructions for the installation of the dividing fence will be given by the Safety Warden. These instructions will include, amongst others, the number of supervisors for the execution of the work, work hours and instructions regarding the train traffic, if needed (safety orders, taking over a section, etc.).

If, for any reason the contractor is not able to install a safety fence compliant with the above requirements, he must submit a reasoned request for a fence with other characteristics. In any case, and in order to remove any doubt, the fence characteristics will be determined by the

relevant Railways Safety Warden.

The contractor is solely responsible for the maintenance of the good working condition of the fence, from the moment it was erected, and the prevention of holes/ gaps in it that might enable passage through the fence in the direction of the railway track. It is the contractor's duty, or that of his representative, to ensure, prior to the commencement of the work on each shift, and at any given time that the fence is in a good state of repair.

Metal warning signs shall be posted on the dividing fence stating "Crossing of the fence towards an active railway track is forbidden". The dimension of the signs will be 30 x 80 cm; the height of the letters will be 12 cm, black letters on white background. In addition, signs written in a language understood by workers that do not speak Hebrew, will be placed throughout the length of the fence when the distance between the signs is 30 meters.

3.12 Dismantling of dividing fences (after completion of work at site):

Always upon completion of work at the site, the contractor executing the work must dismantle and remove all the dividing fences from the Railways sites. The action of dismantling and removal of the dividing fences will be carried out in accordance with the rules in section 3.11 above, and subject to all the safety regulations in this appendix.

4. Personal protective equipment

4.1 An employer employing workers within the Railway compound shall provide personal protective equipment for his workers in compliance with the Safety at Work Regulations (Personal Protective Equipment), 5757 – 1997.

4.2 All the workers within the Railway compound will wear standard reflective vests.

4.3 Equipment – track observer:

- 4.3.1 Whistle – Israel Railways catalog number – 500230762
- 4.3.2 Horn – Israel Railways catalog number – 600053644
- 4.3.3 Green flag – Israel Railways catalog number – 500230502
- 4.3.4 Red flag – Israel Railways catalog number – 500230511
- 4.3.5 3 color flashlight – Israel Railways catalog number – 600134492

5. Workers training

5.1 Always prior to the commencement of the execution of new work/ new project/ new agreement/ annual refresher, a meeting will be held between the client that ordered the work and the relevant Division/ Premises Safety Warden, the executing contractor and other bodies (at the discretion of the Safety Warden), in which general and specific safety provisions for the execution of the work will be provided (including the safety appendix).

5.2 The responsibility for the coordination of the meeting with the Safety Warden falls on the contractor executing the work.

5.3 The Safety Warden will instruct the team leaders/ foremen, the management team and other entities at his discretion, on the risks

involved in working in the vicinity of a track. Undergoing safety training and signing the safety declaration are prerequisites for the beginning of the work.

5.4 Should the contractor execute work other than the work he has been given safety training for, it is his responsibility to undergo a repeat safety briefing imparted by the relevant Division/ Premises Safety Warden for this work. It is the responsibility of the contractor's team leaders/ foremen to instruct the workers on the risks entailed in their work including the risks involved in working in the vicinity of a track in particular.

5.5 It is forbidden to carry out any electricity/ water /communications work (maintenance /renovations) within the Railways compounds, unless prior coordination accompanied by prior safety training has been carried out with the relevant professional entities, and only after having obtained their approval in writing.

5.6 Such training shall be repeated and held according to needs of the workers and a least once a year.

6. Hot works execution (welding, grinding, polishing, cutting, soldering, bitumen, etc.)

6.1 General – fires often start as a result of negligent work and non-compliance with the fire safety rules. This directive is aimed at defining an inspection and control process, before and during the execution of hot works within areas not designated for the execution of hot works, in order to minimize the potential for fire as a result of this work, with all its implications.

6.2 Safety instructions

6.2.1 Hot works will be carried out by a worker that had received safety training and was qualified to perform this work by his direct manager. The worker received safety training during the last year and is aware of the work hazards and the requirements of this section and knows how to cope with those hazards.

6.2.2 Hot works will be performed using standard personal protective equipment in proper working order, and suitable for the nature of the work.(as detailed below)

6.2.3 Cutting/ welding/ soldering/ grinding equipment/ burners and such are in proper working order for the execution of the work.

6.2.4 Prior to the execution of hot work, the work area must be inspected and it must be ascertained that:

a. The workplace was inspected and measures were taken for the prevention of fire.

b. In those places where there is dry vegetation/thorns or other flammable material, the worker is to ensure, prior to his commencing the execution of the hot work, that the flammable material and the dry vegetation is removed from the place to a distance of at least 10 meters.

Only during welding of a coupling – the team leader will ensure, at his professional discretion, the safety circle around the work, so that the work is performed safely, including addressing the matter of fire not breaking out uncontrollably.

6.2.5 The presence of fire extinguishing equipment (powder fire extinguisher, blankets, or a tap with hosepipe) at a distance that does not exceed 3 meters from the place where the work is performed must be ensured.

6.2.6 Precautionary measures were taken at a range of 10 meters from the workplace:

a. The floor/ ground are free of flammable materials (thorns, trees, newspapers, cardboard, etc.)

b. Floor/ ground made of flammable materials must be covered with fireproof sheets or metal sheets.

c. If there are any flammable materials (newspapers, thorns, pallets, diesel fuel barrels and so on) at a radius of 10 meters, they must be covered with fireproof, metal or other material sheets, or removed.

d. Flammable liquids were removed from the work area.

e. Other flammable materials are covered.

f. A 6 kg powder fire extinguisher is available on site and a fire observer that knows how to operate it.

Only during welding of a coupling – the team leader will ensure, at his professional discretion, the safety circle around the work, so that the work is performed safely, including addressing the matter of fire not breaking out uncontrollably.

6.2.7 A written approval of the person responsible for the work on site, to which the inspection form (attached) is attached, was issued prior to the commencement of the works.

6.2.8 It is expressly prohibited to carry out hot work within a distance of less than 6 meters from a railway track at the time of a train carrying hazardous materials passing along the parallel track (must be coordinated with Command).

6.2.9 The execution of hot work on sections will be carried out only after coordination with, and obtaining the approval of, the relevant railway track maintenance warden.

6.3 During the course of the works

6.3.1 During the course of the works, another person, "a fire observer", whose role is to supervise the execution of the works, and make sure that no fire or sparks are spread, will be positioned in the vicinity of the worker.

6.3.2 It must be ascertained that the work area is well ventilated and the workers are not exposed to gases emitted from the open fire work process.

6.4 After the execution of the works

6.4.1 It is the responsibility of the “fire observer” to make sure and supervise that no fire sources were left in the work area during at least 30 minutes from the completion of the works

6.4.2 Upon completion of the works it must be ascertained that none of the hot parts are a potential source of fire, if necessary, they

must be cooled with water. Hot parts are not to be left without supervision.

6.4.3 Should a fire break out during the course of the work, or after its completion, it is mandatory to locate the source of the blaze, and extinguish it and in parallel to inform the nearest region manager/ station manager/ the Railways Command.

6.5 Personal protective equipment

6.5.1 The workers will be equipped and will use personal protective equipment suitable to the nature of the work they perform and compliant with the Safety Regulations at Work – Personal Protective Equipment and the dedicated risk evaluation.

6.5.2 Each worker is responsible to make sure that the personal protective equipment used by him is in good condition, and if not, he must replace it.

6.5.3 No work will be carried out by the worker without the use of suitable personal protective equipment.

6.6 Authorization form for the performance of open fire works for contractors and contractor workers.

Israel Railways Authorization to perform open fire/ hot works Date: _____ Region: _____ Work type: _____ _____ The place was inspected, precautionary measures for the prevention of fire were taken, as detailed on the right, and the work was coordinated with the regional manager in charge. This work was approved. Signature of the person responsible for the work: _____ The validity of the authorization expires on: _____ Final checking (done by the entity that ordered the work/ foreman) The work area and areas adjacent to it, where heat and sparks might spread (such as floors above and below, or across walls) were checked during at least 30 minutes after the completion of the work, and were found safe from fire outbreak. Signature of the responsible for the work: _____	Checking of the mandatory precautionary measures by the entity that ordered the work. Prior to the signature of this card that constitutes a work permit, the Inspector (or the person responsible for the work) must check the designated work area and ensure that the precautionary measures listed below were taken: The sprinklers system is working. Cutting, welding, soldering and similar equipment is in good working order. Precautionary measures at a range of 10 m from the workplace. ☐ The floor is free of flammable materials. ☐ Floors made of flammable materials are covered with fireproof or metal sheets. ☐ Flammable liquids were removed from the work area. ☐ Other flammable materials are covered with fireproof or metal sheets. ☐ All the openings in the floor and walls are closed. For work at heights, a fireproof sheet must be placed under the place the work is carried out. ☐ A 6 kg powder fire extinguisher and knowledge to operate it. ☐ Construction materials are not made of flammable materials and are not covered or insulated with flammable materials. ☐ An additional person acting as fire observer is present. ☐ Accompanying equipment is free from flammable materials ☐ Thorns and dry weeds were removed from the work area.

7. **Suspension of work due to deviation from the safety directives**

7.1 At a work site where serious safety deficiencies are detected, the Supervisor/ Safety Warden has the authority to suspend the execution of the work immediately, inter alia in the following cases:

7.1.1 In those cases that it appears to the Manager/ Supervisor /Safety Warden that there are serious safety deficiencies in the field and that failure to suspend the work forthwith at the site is liable to lead to an accident

7.1.2 There are serious safety deficiencies at the site and the foreman or the company have not managed to take control over affairs at the work site, and/or are not acting forthwith in a satisfactory manner, to improve the safety situation at the site.

7.1.3 Failure to observe written safety directives.

7.2 Work will be resumed at a work site where the work was suspended, only after remedy of the situation and the receipt of a written report from the contractor, that all the deficiencies due to which the work was suspended, have been rectified.

7.3 All the consequences arising from the suspension of the work as stated above, will apply to the contractor.

8. **Penalties with respect to deviations from safety directives**

8.1 With respect to any act or failure that deviates from safety and precautionary regulations in accordance with any law and/or in accordance with this safety appendix and/or in accordance with the directives of the engineer and/or his representative and/or the supervisor and/or the Safety Warden (hereinafter: “The Deviation”), the contractor will pay the Railways a fine as detailed in the penalty scale in Chapter O of this appendix, for each day or part thereof, commencing from the date of the deviation and up to cancellation of the deviation by the contractor. (See the Penalties Scale in this appendix).

8.2 The imposition of a fine or its payment does not detract from the authority of the engineer and/or his representative and/or the Supervisor and/or the Safety Warden to exercise any other or additional means in order to ensure the rectification of the safety deficiency, and including the suspension of work at the site.

8.3 The payment of a fine imposed as stated, shall not detract from the responsibility of the contractor with respect to any work carried out in contradiction of the safety regulations or from his obligation to rectify any deficiency or deviation from the safety regulations.

9. **Preparedness for emergency situations**

This chapter will present the requirements, responsibility and action and reaction ways in emergency situations. In addition to the internal reporting procedure of the contractor for emergency situations, the contractor shall submit to Israel Railways all the reports relevant to the event, including reports related to accidents and "almost happened" events.

Definitions:

Emergency situation – any event that was not planned, and whose impact and results injure or are potentially harmful to people, to the environment or the business interests of Israel Railways (such as fire, explosion, spillage of a hazardous substance, emission of harmful gases, road accident, and so on).

Almost happened/ almost accident – a safety event that takes place as a result of the development of factors characteristic to an accident, but ends without injury to persons, property or environment.

Contact list – a checked and updated list of all the persons that take part in the emergency response system of the contractor's team.

Back to normal – Call/ notification that states that the emergency situation is over and the site is safe again. The normal work tasks may be resumed.

9.1 Reporting procedure for emergency situations

9.1.1 When an emergency event occurs on the work site, the first person that notices it must immediately report to the emergency center at the work site, to the site manager and to MABAT – Israel Railways using any available means (phone, mobile communication device, dispatcher).

9.1.2 Maintenance workers shall report to MABAT, the site/ station/ division manager and the Railways Safety Officer.

9.1.3 The communication means to the emergency centers will be posted clearly and openly on site. This information will also be included in the safety training orientation given to the workers and in the training summary given in writing to every contractor worker.

9.1.4 The main points of the initial and immediate reporting will include in a clear and concise manner the following information:

- The **place** where the event occurred
- **What** happened or is happening
- **When** the event occurred or was detected
- **Who** or what is involved in the event (people, injured, equipment or materials)
- **Why** this happened, possible cause of the event
- The **reporting** person, the reporting person and his details
- The person **receiving** the reporting person, the reported and his details

9.1.5 It is strictly forbidden to give any information or to discuss the event and its course of action with or in the presence of external bodies, including the media. If this is necessary, the questions of the external bodies shall be directed to the management of Israel Railways or the site.

9.2 Response plan for emergency situations

9.2.1 The contractor will refresh the emergency response plan in the framework of his safety plan

9.2.2 The contractor’s safety plan will refer to and will include suitable procedures for every emergency situation that might be reasonably foreseen and might result from the nature and type of activity undertaken by the contractor in the given work

environment.

9.2.3 In said emergency response plan, it is the responsibility of the contractor, his workers and the workers on his behalf, to act during the following scenarios as detailed below:

Preparations for severe injury or life loss

a. In case of a severe accident, it is compulsory to report immediately to the site emergency center and to Israel Railways and to provide the injured with first aid.

b. The contractor's medical team and first aid team will give support in severe and/or life threatening situations

c. The call to external rescue and medical forces will be placed by the emergency center that will help in directing the forces to the place where the event occurred.

d. The event area must be cleared of any unnecessary person present on site.

e. Aid and support must be provided to the search and rescue forces as needed.

f. After the injured are evacuated, no changes shall be made to the event scene and no items on the event scene shall be removed or moved without the approval and explicit instructions from authorized body acting on the behalf of the contractor.

g. For each event, the contractor will conduct an inquiry on his behalf, as close as possible to the time the event occurred, but no later than 24 hours from the conclusion of the event. The documentation of the inquiry will be submitted in full to the security bodies of the management/ supervision company and to Israel Railways.

h. In any event when external medical forces were called, the contractor must notify the emergency center on site, in order to ensure the entrance of the medical forces to the site and their guidance.

i. When a contractor worker is evacuated to receive external medical attention, the injured will be accompanied by a contractor representative that will ensure the injured is received at the medical center and will report to the contractor and/or the management company and to Israel Railways on the situation of the medical treatment of the injured

9.3 Returning to operation

9.3.1 Return to routine work activities on completion of the emergency situation will be announced by an Israel Railways representative only, or by the management/ supervision company on site.

9.3.2 The "back to normal" announcement will be communicated to all the contractors and the management entities at the different levels on site. The communication of the information to the workers and their return to work will be the contractor's responsibility, following the receipt of the announcement.

9.4 Investigation and reporting of safety events

9.4.1 The investigation and reporting of accidents and safety incidents are aimed at promoting the learning of lessons and the prevention of the recurrence of similar events in the future, by the identification and handling of the factors that led to the accident. In this manner the contractor acts to reduce the number of injuries and occupational diseases and/or to reduce the severity of the injuries and the damage to property.

9.4.2 Investigation and reporting

a. Every safety event and/or "almost happened" incident that caused or might have caused loss of life, physical injury, disease, damage to the environment or damage to property and equipment must be examined and investigated to the roots of the factors that led to the event.

b. The contractor's safety entities will conduct a safety inquiry for each event on the company site that ended in life loss, severe physical injury or disease or substantial damage to the environment. This procedure will be carried out in conformance with the procedures of the contractor on this subject.

c. The contractor or his representatives will conduct a safety inquiry for each event not investigated by the representatives of Israel Railways. In addition, the contractor will conduct and inquiry for severe events as described in subsection b above, upon the request of the representatives of Israel Railways. A representative of Israel Railways will participate at each inquiry of a safety event conducted by the contractor, as determined by it.

d. Any investigation of a safety event will take place immediately after the event and will be summarized in writing as soon as possible.

e. It is the contractor's responsibility to report a safety event that occurred amongst his workers, as required by law, to the various authorities.

f. Every event inquiry will be documented and summarized in a report written according to a procedure included in the procedures of Israel Railways or in the safety plan of the contractor. The summary and the documentation will be done close to the completion of the inquiry.

g. Safety inquiries, conducted by either the contractor or Israel Railways, will take place independently of parallel inquiries conducted at the same time by any external body (Department of Labor Supervision, the Police and so on).

h. Any information regarding the proceedings of the investigation, conclusions, results and so on, will be communicated to external entities solely by the safety entities or a spokesperson on the behalf of Israel Railways. It is strictly forbidden to any other person to communicate intentionally or inadvertently any such information to external entities.

Chapter C – Safety in construction and engineering work in the vicinity of a railway track

1. **General safety issues and the responsibility of the contractor/ company**

It is hereby emphasized that according to the Safety at Work Regulations (Construction Works), 5758 – 1988, the responsibility for safety at work during the performance of construction works falls upon the performer of the construction and the foreman – the person responsible for safety on his behalf. All of the provisions below supplement and do not detract from any regulation and/or law.

2. **Work conditions and responsibility in the vicinity of the railway track**

2.1 The work of a contractor in the vicinity of an active railway track requires the contractor to comply with the following requirements:

2.1.1 The appointment of a Safety Warden with qualification certificate – see details in section 2.4.

2.1.2 Preparation of a safety management plan - see details in section 2.4.3.

2.1.3 The work is carried out under the constant supervision of a certified foreman, pursuant to the Safety at Work Regulations (Construction Works), 5758 – 1988, who supervises the work and all the workers at the site

2.1.4 Employee training – the contractor will make sure that his workers are instructed according to the regulations of the Organization of Work Control Regulations (provision of information and employee training), 5759 – 1999. Training of workers is a condition for the beginning of the execution of the works within the Israel Railways compounds, with strong emphasis on the hazards of work in the vicinity of railway tracks.

2.1.5 There is constant surveillance and alert over the groups of workers, throughout the course of work by employees on behalf of the contractor, serving as “track observers” as described in section 2.2 below.

2.1.6 Following are the works for which special attention is required:

a. Engineering tools with a boom that can reach the railway track grounds (bagger, shovel, crane, etc.).

b. Drilling (piles, foundation for bridge pillars, positioning of poles, etc.).

c. Casting (casting of piles, walls, over track infrastructures, etc.).

d. Upper bridges (raising of beams, scaffolding mounting, positioning of cranes, etc.).

e. Underground passages (grade separation, aqueducts, electricity, communication infrastructure, etc.).

f. Train/road crossings (cancellation/ mounting/ upgrade/ maintenance, etc.).

g. Excavation works (see section 2.5).

h. Hot works (see Chapter B section 6).

As a rule – works at a distance of less than 2.31 meters from the nearest or railway track or within the area between the fence and the active railway track will be carried out pursuant to Safety Order 51831, the railway operating instructions and the safety management plan on behalf of the performance contractor.

The works listed in this section will be carried out under the following conditions:

a. It is the contractor's responsibility to submit a plan to the Railways Safety Warden, detailing the planned execution procedures and the corresponding risk assessment.

b. The Railways Safety Warden, after reviewing the material submitted, will issue the safety directives to be followed during the execution of the works.

c. For the avoidance of doubt, works involving high risks for the rolling stock or the workers will not be carried out on an active track.

d. From that provisions of section 2.1.9 it is derived, that it any event of activities that require the taking over of a section of track or work on an active track, and/or beyond the dividing fence, within the "Train Corridor", overseeing of a Railway Track Observer acting on behalf of the contractor, is not sufficient, and the Railway Safety Supervisor is required instead.

2.1.7 Without contradicting all the above, and without this being construed as authorization for the contractor to work on an active railway track, or beyond the dividing fence, the contractor undertakes to take all the steps necessary to prevent the falling of pieces of equipment on, or in the vicinity of, the railway tracks.

2.1.8 The contractor will be responsible for immediately informing the Railways regarding every such fall and the obligation to remove them falls on the contractor, while taking all the safety precautions. It is the responsibility of the contractor to prevent the penetration of any boom of a crane or other engineering machinery beyond the dividing fence.

2.1.9 The contractor must instruct his workers at the beginning of each work day that trains are expected to arrive at high speeds and without a siren from any direction on the track/s, therefore it is strictly forbidden to permit the crossing of workers or/and equipment beyond the dividing fence.

2.1.10 The contractor is implementing all the requirements stipulated in Safety Order 51831, Chapter P of this appendix.

2.2 Railway track observer

2.2.1 It is the responsibility of the contractor to appoint supervisors on his behalf, called “Railway Track Observers”, as stated in section 2.1.5, whose sole function is to prevent the access of workers and equipment to an active railway track and to give warning to

workers and equipment operators of the approach of a train. The contractor is to select Railway Track Observers that have sound vision and hearing and ensure that they are able to speak Hebrew well.

2.2.2 It is the responsibility of the contractor to ensure that no worker will act on his behalf as a “Railway Track Observers”, unless he participates first in a dedicated training session at Israel Railways Ltd, and was certified for this position.

2.2.3 It is the responsibility of the contractor to ensure that the certificate of the Railway Track Observer acting on his behalf is valid at all times. A Railway Track Observer holding an invalid certificate cannot act as Railway Track Observer.

2.2.4 Should work be carried out in a number of places along the length of that same active railway track simultaneously, a fence and Railway Track Observers as stated are required at each of the places. It is the responsibility of the foreman of the chief contractor to determine the location of the Railway Track Observer.

2.2.5 It is strictly forbidden to commence work prior to the arrival of a Railway Track Observer. The presence of a Railway Track Observer during the course of the execution of the work in the vicinity of an active railway track is a mandatory imperative condition for the commencement of work on each work day, in the vicinity of an active railway track as stated.

2.2.6 It is the responsibility of the contractor to ensure that when fulfilling his duty the Railway Track Observer wears full working clothes, a standard reflective vest with the wording "Railway Track Observer" on the back and front. He will be equipped with a horn, a flashlight, and red and green flags.

2.2.7 It is the responsibility of the contractor to ensure that the Railway Track Observer is fit for the task.

2.2.8 It is the responsibility of the Railway Track Observer to instruct all the workers and the operators of the mechanical equipment not to pass the dividing fence in the direction of the railway track, as well as move away from the railway track, should they hear a blast of a horn while being on the railway track or in its vicinity.

2.2.9 When work is carried out in the vicinity of a dual track or an active railway track it is imperative that the Railway Track Observers take extra care and beware of the movement on the other track, as the train can approach from both directions.

2.2.10 It is the responsibility of the foreman to ensure that all the workers on site comply with the instructions of the Railway Track Observers and refrain from any crossing of or approach to an active railway track.

2.2.11 The permitted work area is only at a distance of 2.31 meters from the closest railway track and only beyond the dividing fence.

2.2.12 In cases where it is not possible to position a Railway Track Observers, it is the responsibility of the contractor to ask for a Train Safety Supervisor pursuant to the instructions of Israel

Railways.

2.3 Train Safety Supervisor

2.3.1 According to the directives of the Safety Warden at Israel Railways, it is the responsibility of the contractor to invite a Train Safety Supervisors to carry out the safety supervision, and to ensure his presence on site prior to the authorization of the commencement of the work under these conditions.

2.3.2 It is hereby emphasized that in the event supervisors were invited but have not arrived, for any reason whatsoever, the work will not be executed! (Regardless of the urgency of the work or its cost, the same with respect to Railway Track Observers).

2.3.3 It is the responsibility of the contractor to ensure that the safety supervisor gives safety training to the workers. The training will focus on the workers' conduct before and during the passage of cars in the work areas.

2.3.4 From that provisions of section 2.1.9 it is derived, that it any event of activities that require the taking over of a section of track or work on an active track, and/or beyond the dividing fence, within the "Train Corridor", the contractor will ensure that a Train Safety Supervisor is present on site. The Safety Supervisor will ensure that the "taking over of the track" was done according to the railways operation orders.

2.3.5 In the event that any difficulties arise that prevent the safe execution of the works, the Safety Supervisor will immediately suspend the work and notify his manager/ supervisor/ Railway Safety Warden of the fact.

2.4 The Safety Warden

2.4.1 Each company/ contractor, employed in the execution of construction and engineering construction work within the Railways compounds, is to appoint a qualified safety warden, holding a valid certificate, regardless of the number of workers it employs, its area of activities or the period of time planned for the execution of the works. The safety warden will have at least three years of experience in the construction industry and certified in the construction and engineering work industry.

2.4.2 The safety warden will act in conformance with the Regulations of the Organization for Labor Safety (Safety Wardens), 5756 – 1996.

2.4.3 The executing contractor is to present a safety management plan prior to the commencement of the work, in conformance with the Regulations of the Organization for Labor Safety. The safety management plan will include instructions and directives of the Railway Safety Warden. The safety plan will be submitted in writing to the Safety Warden, prior to the commencement of the work at the site.

2.4.4 The safety warden on behalf of the contractor will carry out a weekly visit at the work sites and will issue a safety report accordingly.

2.4.5 The safety warden on behalf of the contractor will participate

regularly in the weekly team meetings held on site.

2.4.6 During the performance of high risk works, and at the Railway Safety Warden's discretion, the presence of the safety warden will be required on the work sites.

2.4.7 The Labor Safety Supervising Department at Israel Railways reserves the rights to add to or to modify the employment terms and the role definition of the contractor's safety warden as needed.

2.5 Excavation work

2.5.1 Any excavation work will be executed according to the Safety at Work Regulations (Construction Works), 5758 – 1988, and the provisions of the law.

2.5.2 Under no circumstances are open ditches to be left in the vicinity of active railway tracks. It is the responsibility of the contractor to fill in any pits or to fence them off.

2.5.3 The execution of excavations or drilling in the vicinity of a railway track is permitted by prior coordination with the relevant departments at the Infrastructure Department (electricity, communications, engineering, etc. according to the plans approved for execution). It is the responsibility of the contractor to obtain safety and professional instructions and a suitable written approval from the relevant departments.

2.5.4 It is the obligation of the contractor to report to the station / garage/ facility manager and to the supervisor regarding any open excavation. Notification in writing is also to be submitted.

2.5.5 In the event that in the course of excavations or drilling, the contractor/ executor of the work hits underground Bezek or Israel Electric Company or Mekorot or other infrastructure pipes, or Israel Railways infrastructure pipes, he is to immediately suspend the work and report the fact to the Railways inspector.

2.6 Safety in traffic

Definitions in respect of this chapter:

Safety in traffic – all the operations and measures at the work sites, designed to regulate the flow of traffic and protection of road users and workers on the site, for the purpose of preventing accidents.

Directing traffic – closing a lane and/or traffic route to perform maintenance work and the temporary redirection of traffic to an alternate lane and/or bypass.

Traffic director – a police officer or any person authorized to direct traffic in accordance with Regulation 23 of the Traffic Regulations.

Traffic arrangement – a plan or diagram approved by the competent signposts authority meant to regulate traffic on roads and on use of way.

Traffic redirection – any traffic routing changes, including their diverting, including the establishment of new traffic arrangements and transition between stages of implementation of the project (for example – operation of a traffic light, moving to two lanes, etc.).

2.6.1 General

2.6.1.1 The contractor shall take all necessary safety measures to

prevent possible interference with traffic.

2.6.1.2 In the event there is no road lighting at the work site, the contractor will be responsible for temporary proper lighting at the site. The lighting will comply with the updated specification of the National Roads Company.

2.6.1.3 It is the responsibility of the contractor to search for safety hazards at the worksite, at the beginning and end of each working day. The search will be recorded by the contractor in the logbook according to the following:

- Date and time of the search.
- The hazard.
- The manner of handling.

2.6.1.4 Work will be performed in accordance with the work instructions of the Department of Roads and Traffic Arrangements specified in the updated work instructions folder.

2.6.1.5 Any change in the traffic arrangement plan requires the contractor to update the project manager to stop work and submit an updated plan to the approval of the competent traffic authority.

2.6.1.6 It is the contractor's responsibility to carry out work along the route approved by the engineering coordination only – any change will result in the suspension of the work.

2.6.1.7 It is the contractor's responsibility – throughout the execution of the works, to keep sidewalks in place as a service for pedestrians, with a minimum width of 130 cm.

2.6.1.8 It is the contractor's responsibility – the excavation near the roots of trees requires inspection and approval of the Department of City Improvement.

2.6.1.9 It is the contractor's responsibility –blue and white marking, red and white marking, disabled parking, will be carried out according to red and white procedure.

2.6.1.10 Brochures must be distributed/ Telecity, before starting work.

2.6.1.11 It is the contractor's responsibility – for the duration of execution of the work rescue and safety vehicles such as firefighters, Magen David Adom, police and ambulances, must be allowed passage.

2.6.1.12 It is the contractor's responsibility – if work has an impact on the access roads to emergency centers, including hospitals, police, etc. – they must be updated and a written summary must be presented.

2.6.1.13 It is the contractor's responsibility – it is strictly forbidden to load and unload equipment trucks outside the sections of the work program defined in the approved traffic arrangements plan.

2.6.1.14 It is the contractor's responsibility – it is strictly forbidden to leave open ducts at the end of the workday, including when the site is fenced.

2.6.2 Work permits/ work license

2.6.2.1 The contractor must receive from a representative of the municipality and/or the project, a work permit before starting work. The contractor is obliged to operate under the terms of the license.

2.6.2.2 At a work site it is compulsory to have a project portfolio at all times of work and it shall include the following documents:

- Works license for infrastructure.
- Engineering coordination letter.
- Traffic arrangements plan, including the approved stages of execution.
- Consultation protocol.
- Police permit.
- Night authorization form – if required.

2.6.3 Signage, signposts and safety measures

2.6.3.1 The contractor must put up signs, traffic sign and safety measures according to a temporary traffic arrangements plan approved by the competent signage authority.

2.6.3.2 All the signposts placed at the work site will be compatible with Israeli Standard no. 2247 Part 1.1 (reflectors) and Israeli Standard no. 2247 Part 1.2 (signs).

2.6.3.3 The Contractor shall ensure that all traffic signs, safety devices and accessories and safety railings posted by him at the site appear on the list of products approved by the Inter-ministerial Committee for Traffic and Safety Devices, distributed periodically by the Committee.

2.6.3.4 The size and method of placement of traffic signs shall be as described in the approved regulations and guidelines for placing traffic signs – the Traffic Regulations.

2.6.3.5 Dismantling the temporary traffic sign posts requires reinstatement of the previous state (not through casting) – using flooring identical to the existing one.

2.6.3.6 In jobs requiring use of a dragged arrow cart, a flashing mobile panel the cart structure will be compatible with the structure defined in the “General Specifications for a Mobile Flashing Panel” – approved by the Inter-ministerial Committee for Traffic and Safety Devices and approved for use on the work sites of Israel Railways.

2.6.3.7 It is the responsibility of the contractor – fencing the work area using a rigid fence only on weight foundation.

2.6.4 Directing traffic

2.6.4.1 Closing a road and/or traffic route for the purpose of execution of works, reconstruction and development and redirecting traffic temporarily to another route, requires the employment of police officers or paid **traffic inspectors**, and/or another entity authorized to direct traffic **by law**.

2.6.4.2 It is strictly forbidden to direct traffic by someone not authorized to do so.

2.6.4.3 It is the responsibility of the contractor to enter into a contract with a safety subcontractor for setting up traffic arrangements at the site. The safety contractor will be a contractor certified by the Netivei Israel Company and he is obliged to operate qualified crews only at the site.

2.6.4.4 Said safety team shall be comprised of at least two employees. The security group head will be a graduate of a paving sites security course, with a valid certificate in his name.

2.6.5 Bypasses/ diverting traffic

Will be done according to work instruction no. 01-005 of the Roads and Traffic Arrangements Department.

2.6.5.1 The diverting of traffic will be carried out in coordination with the Department of Engineering Implementation Coordination and the Israel Police at least 14 days before the scheduled date of the diverting of traffic.

2.6.5.2 Before the diverting of traffic, at least two weeks before the planned date of diverting, it is the responsibility of the project manager to carry out a simulation at the site with all parties involved in the issue: the police, planner, safety contractor (traffic arrangements), performance contractor, traffic regulation and safety oversight supervisor.

2.6.5.3 Pursuant to the updated diverting of traffic procedure and according to the temporary traffic arrangements plan approved by the Local Traffic Authority.

2.6.5.4 After the diverting of traffic, it is the responsibility of the traffic arrangements planner to forward a supervision report within a period of up to 24 hours after the diverting of traffic.

2.6.5.5 Performing work that requires deployment of police and/or traffic inspectors will only be carried out in the presence of the project manager and/or a person authorized by him at the work site.

2.6.5.6 **Before starting work the Israel Railways Safety Center and the Signage Authority Center in whose area the work is performed, are to be informed**.

2.6.6 Entry and exit of trucks

2.6.6.1 The contractor has a duty to enter and exit the site only in places allocated for this in the approved traffic arrangement plan.

2.6.6.2 It is the contractor's responsibility - to place security guards in the areas of entrance/ exit of work vehicles, whose job is directing pedestrians and transferring them safely.

2.6.7 Setting up at the site

2.6.7.1 It is the contractor's responsibility - to coordinate with the traffic arrangements planner the location of a setting up area and define it in the approved traffic arrangements plan.

2.6.7.2 Waste will not be stored on site under any circumstances in any of the stages of work at the site (excess waste removal will be performed every day).

2.6.7.3 Working materials - will be stored and will be fenced in an area prepared for that purpose and in a safe manner that does not endanger road users and pedestrians on the site.

2.6.7.4 Pedestrian fence – a fence will be placed on weighty foundations inserting in the pavement/ ground.

2.6.8 Scrubbed/ broken road

2.6.8.1 Scrubbed segments may not be left over weekends or holidays in Israel.

2.6.8.2 A scrubbed segment shall have warning signpost 915 (scrubbed road) placed on both sides of the road indicating the road is scrubbed.

2.6.8.3 Reconstruction of crossings on pavements should be done using hot asphalt and marking, immediately after the completion of the work.

2.6.8.4 No steps are to be left along and/or across the road, if there is no other option, the stair will be will be moderated with a slope of 20% and/or as defined in the Netivei Israel specifications.

2.6.9 Completion of the works

The contractor is required upon completion of the works to remove all road construction and work materials, and make sure the site is left clean and tidy and ensure all the provisional signs are dismantled at the end of the work.

Chapter D – Safety in maintenance work inside railway tunnels

1. **Following are some of the main risks a worker might be exposed to inside the tunnel**
   - 1.1 Injury from passing trains/ rolling stock.
   - 1.2 Injury from harmful crawling insects inside the tunnel.
   - 1.3 Suffocation/ lack of air during the execution of hot works inside the tunnel.
   - 1.4 Exposure to harmful noise – development of occupational diseases.
   - 1.5 Health problems not known to the foreman that might impact the worker during his work.
   - 1.6 Fall/ injury of the worker inside the tunnel.
   - 1.7 A fire break inside the tunnel.
   - 1.8 Exposure of the worker to respiratory diseases.
   - 1.9 Physical injuries due to incorrect use of work equipment/ tools.
   - 1.10 Shock injury during the passage of a train inside the tunnel.

2. **General safety instructions**
   - 2.1 The safety instructions refer to the activities of the contractor's workers inside the railway tunnels.
   - 2.2 Any execution of any type of work inside the railway tunnel requires the executor of the work to receive the approval of the Railway Track Supervisor and to coordinate with the initiating department manager (in case of EES workers – the manager of the Communication Department) and MABAT. The coordination will be done by phone + e-mail.
   - 2.3 Any work inside railway tunnels will be executed only under the supervision of a Railway Track Supervisor (a worker that was trained as supervisor) and after coordination.
   - 2.4 The foreman/ work team leader is the worker directly responsible for the safety of the workers; in his absence any work inside the tunnel is prohibited.
   - 2.5 Under no circumstances will the work inside the tunnel begin if organizational directives related to safety were not applied, such as:
     - 2.5.1 A safety management plan – see Chapter C section 2.4.3.
     - 2.5.2 All the findings of the risk/hazards review were brought to the attention of the team of workers inside the tunnel by the foreman/ team leader
     - 2.5.3 Except for a visit or work in one of the internal rooms or tunnel shafts, prior to the entrance of the workers into the tunnel, it is the responsibility of the foreman/ team leader to ensure that all the safety arrangements required in conformance with the instructions for the railways operation (section taking over, caution order) were made.
     - 2.5.4 The foreman/ team leader must be familiar with the emergency exit openings and access/ escape ways in the vicinity of his

place of work, and he must plan the evacuation of the workers in emergency situations. He must ensure the availability of a public announcement device in good working order (loudspeaker).

2.5.5 Prior to the commencement of the work it is the responsibility of the foreman/ team leader to monitor the work environment to make sure there is no exposure to toxic gases. Monitoring will include, at least, the following gases – oxygen (O_2), carbon oxide (CO), hydrogen sulfide (H_2S) and explosive gases. The number of workers inside the tunnel will be as required by the volume of work and in no case less than 3 workers in the tunnel (including the supervisor). The monitoring results will be presented before the foreman/ team leader and will constitute a mandatory condition for the receipt of its approval for the beginning of the works. **See additional instructions in this chapter/ section 12**.

2.5.6 No work will be performed in the tunnel, in the absence of wireless communication between all the teams employed in the tunnel + communication between them and an external body (safety center, security center).

2.5.7 At least one person in each team of workers inside the tunnel will be a worker that has undergone training in fire-fighting and basic first aid training.

2.5.8 The foreman/ team leader is responsible for the illumination at the worksite being of a sufficient intensity for the performance of the works.

2.5.9 It is prohibited to light a fire and to smoke cigarettes inside the tunnel.

2.5.10 Hot works will be performed only after all the safety steps were taken.

2.5.11 Entrance/ exit of the workers to/ from the worksite through the tunnel will always be done on the pavement along the walls.

2.5.12 The foreman/ team leader is responsible to ensure that all the workers intended to work in the railway tunnel had undergone preliminary medical checks by an occupational doctor according to the following age groups and were given medical certificates certificate attesting to their medical fitness for said work :

- Age18-30 – a check every 3 years
- Age 30-40 – a check every 2 years
- Age 40 and above – a check every year

2.5.13 It is the responsibility of the foreman/ team leader to ensure that all the workers in the tunnel had undergone comprehensive safety training in regard with the safety risks for workers in railway tunnels during the last 12 months (in addition to the fire-fighting and first aid training).

2.5.14 It is the responsibility of the foreman/ team leader to ensure that in the tunnel are employed only workers fit for this work.

2.5.15 It is the responsibility of the foreman/ team leader to leave the list of the names of the workers in the tunnel in the first fire equipment closet at the entrance to the tunnel, or at the entrance

to the tunnel.

2.6 Completion of work inside the tunnels:

2.6.1 The foreman/ team leader is to report to the initiating department manager and to MABAT on the completion of the work in the tunnel.

2.6.2 Upon work completion, it is the responsibility of the foreman/ team leader together with another worker to perform an inspection and to ensure that the work area is in order and no equipment was left behind.

2.6.3 Upon work completion, it is the responsibility of the foreman/ team leader to ensure that all the persons and equipment were evacuated from the tunnel and to remove the list of the workers' names from the fire equipment closet.

2.6.4 If there were any failures, the foreman/ team leader must prepare a written report of the failures detected during the work in the tunnel. The report will be submitted to the Railway Safety Warden and to the relevant department manager.

2.6.5 Upon completion of hot works and before leaving the worksite, the foreman/ team leader must ensure that no hot metal parts that may constitute a fire hazard were left on the worksite.

3. Safety training for workers/ risks review/ hazards review and fitness certificate for the tunnels

3.1 Workers training – see Chapter B – General – section 5.

The executing contractor is required to present documents concerning the workers training in fire-fighting and first aid.

3.2 Prior to the beginning of the work in the tunnel it is the responsibility of the foreman/ team leader to give an initial safety briefing outside the tunnel that will include general guidelines for the execution of the works and specific safety instructions for the work to be done.

3.3 Safety training for the workers in railway tunnels will include also periodic practice of rescue and fire-fighting activities in the railway tunnels.

4. **Use of personal protective equipment (see equipment list below)**

4.1 The personal protective equipment with which the workers will be equipped and which will be used by the workers will comply with the nature of the work carried out by them and with the Safety at Work Regulations (Personal Protective Equipment) and the risks (see details of the equipment at the end of the instructions).

4.2 It is the responsibility of each and every worker to ensure make sure that the personal protective equipment used by him is in good condition, and if not, he must replace it.

4.3 No work will be carried out by the worker without the use of suitable personal protective equipment.

4.4 Prior to the entrance to the tunnel it is the responsibility of the foreman/ team leader/ his replacement to carry out a personal check to ensure that all the workers are equipped with personal protective equipment as required.

5. **Logistic/ safety preparation for the execution of the works inside the tunnel**

5.1 The tunnel workers team will have a bag with first aid equipment and a folding stretcher. The equipment will be located at the closest place to the worksite, in coordination with the Railway Safety Warden.

5.2 A 6 kg fire extinguisher must be found in the vicinity of the place where hot works are carried out.

5.3 At least one 3-liter container of drinking water must be available.

5.4 At the discretion of the Railway Safety Warden and according to the nature of the work being done/ number of workers in the tunnel, the presence of a tunnel rescue person will be coordinated, with a train carriage for first aid, evacuation of injured.

5.5 The operation of a bellows system for smoke evacuation. In tunnels where smoke evacuation systems are not installed, the team will be equipped with ventilators/ blower suitable for the evacuation of gases away from the workers team at the worksite (dependent on the nature and location of the work).

5.6 The workers will have personal flashlights including spare batteries.

6. **Safety of hot works execution (welding/ grinding/ cutting/ polishing)**

6.1 The workers must use personal protective equipment as needed, according to the location and nature of the work.

6.2 Prior to the beginning of hot works that create sparks the workers must remove any flammable item from the vicinity of the workplace. It is recommended to use protection plates/ sheets to prevent spreading of sparks.

6.3 When performing hot works that generate combustion gases it is required to evacuate the workers to prevent exposure to the combustion gases.

6.4 Presence of workers in places where they are exposed to combustion gases should not be allowed without suitable personal protective equipment.

6.5 Should a fire break out during the course of the work, all the measures for its extinguishing must be immediately be taken, the control, MABAT center must be immediately informed and any workers group in the tunnel must be notified by public announcement (loudspeaker) and MIRS that they must escape.

7. **Rescue safety, workers access and evacuation ways from the tunnel**

7.1 Prior to the beginning of the work the foreman/ team leader must brief the workers in regard with the nature of the work and to inspect personally the escape route in order to ensure that it is free from any obstacles. Prior to the beginning of the work the foreman/ team leader must actually show the workers the escape ways in the direction of the emergency exits.

7.2 Prior to the beginning of the work the foreman/ team leader must coordinate by phone with the entities he is to summon in case of emergency/ severe injuries to workers – MABAT center, in conformance with the safety plans/ safety guide.

8. **Workers safety in noisy and dusty work environments**

8.1 Personal protective equipment as needed, according to the place and the nature of the work.

8.2 During the course of works that generate dust, the workers foreman must ensure that the intensity of the illumination at the location allows the work environment to be seen.

8.3 If possible it is recommended to wet down the work area prior to the beginning of the works, in order to prevent the generation of dust clouds.

9. **Workers safety for the prevention of injuries caused by animals/ crawling pests**

9.1 The workers in tunnels must beware of injuries cause by crawling pests.

9.2 Should a worker be injured/ stung/ bitten the origin of the sting/bite must immediately be clarified, contact with MDA must be made and evacuation ordered.

9.3 The evacuation of the injured worker from the tunnel will be done accompanied by a second worker, in a trolley or contractors vehicle after receiving the approval of MDA and according to their instructions.

9.4 Do not open lids/ lift stones without first checking with a stick and a flashlight to make sure no snakes/ scorpions are hiding there.

9.5 In preparation for the workers leaving the tunnel and immediately after they leave they must ensure that no crawling pests are hidden in their equipment.

10. **Lighting and the operation of electric equipment in the tunnel**

10.1 Only electric equipment in good working order, that was checked, will be operated in the tunnel.

10.2 If there is a need to activate a generator in the tunnel, it must be positioned as far as possible from the workers group. The foreman/ team leader must check if the generator supply unit can supply power for the operation of all the equipment planned for the work in the tunnel. It must be ascertained that the combustion gases emitted from the generator are not directed towards the workers. If needed, the activation of a dedicated ventilator/ blower for the evacuation of the gases will be considered.

10.3 The fueling of the generator will always be done outside the tunnel.

10.4 When the generator is active in the tunnel, a 6 kg full and working powder fire extinguisher must be positioned close to it.

11. **List of personal protective equipment items (the equipment must bear a standard mark)**

11.1 Protective hard hats incorporating illuminating flashlights.

11.2 Safety boots.

11.3 Reflective clothing.

11.4 Hearing protective equipment (ear plugs/ ear protection).

11.5 Breathing protective equipment when carrying out work involved in the creation of harmful dust.

11.6 Gloves for hands protection in accordance with the type of work that needs to be carried out.

11.7 All the personal protective equipment required to carry out specific work.

12. Supervision for the prevention of fires and smoke generation in tunnels

12.1 It is prohibited to use gas/ fuel lamps in the tunnel.

12.2 It is prohibited to use/ store flammable material with a flash point under 38^{o}C.

12.3 Storage/ transport of used oils and other fuels will be done only in metal tanks.

12.4 Welding, cutting and other hot works will be performed in such a way as to prevent fire breaking out, and should a fire break out, protection and fire extinguishing means should be available and means to isolate flammable materials if any are present in the area. A thorough examination of the area will always be done, in the course and after the performance of hot works, and prior to the team leaving the worksite, in order to check if conditions for self-ignition exist.

12.5 Plates/ sheets of nonflammable materials will be placed under/ behind places where hot works are carried out in order to prevent spreading of sparks, as needed and pending the approval of the Railway Safety Warden.

12.6 A worker trained in fire-fighting will examine the exposure to fire risks immediately following the completion of the hot works.

12.7 The number of acetylene cylinders permitted in the tunnel is the number to be used on the same day. The acetylene cylinders should not be stored in the tunnel but removed at the end of the work day.

12.8 Any fire that broke out in the tunnel must be immediately reported to Control (Masua), to the security center and to the safety center.

13. Ventilation and air quality in the tunnel (a test must be done)

13.1 The workers are forbidden to work in places where the oxygen concentration is lower than 19.5%, unless they use oxygen masks.

13.2 The workers are forbidden to work in places where the oxygen concentration is higher than 22%.

13.3 If a level of 20% above the lower limit of methane or other flammable gas is detected, it must be proceeded as follows:

13.3.1 In places where combustible gases or air pollution were detected, adequate ventilation must be provided to ensure that the concentration of the gases/ fumes/ dust is below the maximum permitted values.

13.3.2 All the workers, except those needed must leave the area.

13.3.3 The operation of the ventilation systems will be stopped only after the workers are evacuated from the tunnel and after the worker checked and found that the air concentration in the area returned to normal.

Chapter E – Safety in the installation and maintenance of communication and command and control (CC) systems

1. General

1.1 Installation and maintenance of communication and command and control (CC) systems at Israel Railways is executed according to the technical instructions of the Communication Department Manager.

1.2 The technical instructions detail the contents of the required works and their frequency in case of preventive maintenance.

2. Applicable documents

2.1 Instructions for the Railway Operation – the last updated edition.

2.2 Technical instructions book for preventive maintenance in the CC system at IR.

2.3 Israel Railways Regulations – addendum 9 part 5 – 1982.

2.4 Safety at Work Ordinance (new version), 5730 – 1970.

2.5 Safety at Work Regulations (work at heights), 5767 – 2007.

3. Safety instructions for work on semaphores

3.1 Works at heights will be carried out according to the Work Regulations (work at heights), 5767 – 2007.

The workers must prepare the safety equipment and ensure its working condition prior to their arrival to the semaphore.

They must take with them all the equipment items, as required by the safety regulations.

3.2 The workers that climb on the semaphore must wear the safety harness, the protective helmet any additional personal protective equipment required.

3.3 Climbing and working on semaphores is permitted only for workers that had undergone safety training for work at heights and that had undergone suitable safety training.

3.4 While climbing on a semaphore the worker must use all of the personal protective equipment including the fall arresting system.

3.5 When a worker arrives to the upper platform on the semaphore, he must tie himself in order to prevent a fall. The anchoring point must be a pillar with an arresting force of 1500 kg.

3.6 Prior to climbing a semaphore the second worker must check the intactness of the equipment used for climbing.

4. Safety instructions for the execution of installation/ repair work of electrical signaling and communication systems

4.1 Repair of electrical equipment items will be carried out only by a qualified electrician.

4.2 The contractor will not use any Railways electrical equipment.

4.3 It is the responsibility of the contractor to ensure that all the portable equipment and electric work tools that he uses will comply with standards

and in good working order under any law.

4.4 The contractor will not install any improvised arrangement of electrical equipment.

4.5 The contractor using an extension cord for purposes of executing his work, must lay it as required in the Electricity Safety Regulations.

4.6 The contractor will work in accordance with all the safety regulations, instructions from the Railways Electricity Warden and subject to the Electricity Law.

5. Safety instructions for work in enclosed spaces

5.1 Enclosed space – definition – Safety at Work Ordinance (new version), 5730 – 1970: "enclosed space" – room, cell, tank, pit, fumes passage, pipe or similar enclosed space.

5.2 The scope of the directives:

5.2.1 The directives refer to workers in the Railways compounds who carry out work in enclosed spaces, where there might be dangerous fumes humans cannot withstand.

5.2.2 In those directives – manhole/ communication pits will be defined as enclosed spaces when their height/ depth from the highest point (entry /exit openings) exceed 150 cm.

5.2.3 In cases where there is no actual need to carry out the work inside the communication pits, and alternatively there is no practical possibility to enter the communication pit (it is possible to carry out the work from outside the communication pit) those places will not be considered as "enclosed spaces".

5.2.4 The person responsible for the work will run air quality tests, prior to the execution of the works, inside all the communication pits, and regardless of the dimensions of the structure of the communication pits.

5.2.5 Communication pits where works are executed inside the pit or in its vicinity, including access to a workplace, that due to them a worker might fall to a depth exceeding 2 meter, and including:

a. Work that is executed from a work platform without fencing or standard railing;

b. Work that requires a person to bend its body at more than 45 degrees outside the fence or railing of the work platform or the passage sidewalk will be considered as "work at heights".

Work at heights will be carried out in compliance with the Safety at Work Regulations (work at heights), 5767 – 2007.

5.2.6 Entrance, work and exit from an enclosed space will be done according to the provisions of the law.

5.2.7 Responsibility for the execution

The responsibility for the execution of the safety directives falls upon the person responsible for the execution of the works – receiving a briefing from its direct manager, inspection of the enclosed space using a safety checklist prior to the execution of

the work in the enclosed space according to appendix A, checking the presence of all the protective equipment, rescue equipment and medical equipment for the execution of the work, briefing of the workers and its constant presence during the execution in the enclosed space.

5.3 Group safety equipment

5.3.1 Safety rope.

5.3.2 Safety belt.

5.3.3 A device for the measurement of the concentration of gases. (You are to check that the device is in good working order prior to departing for the field).

5.3.4 A flashlight.

5.3.5 A long probe rod.

5.3.6 A walkie-talkie (Mirs cellular).

5.3.7 A folding screen of a height of 120 cm (as needed).

5.3.8 First aid equipment.

5.3.9 A 5 liter jerry can of drinking water.

5.3.10 A rescue tripod.

5.3.11 A ladder (as required).

5.3.12 Open breathing system/ closed breathing system

5.4 Worker Personal Protective Equipment (mandatory)

5.4.1 ¾ safety boots.

5.4.2 Long pants.

5.4.3 A shirt with long sleeves.

5.4.4 Material gloves and P. V. C. gloves (as needed).

5.4.5 Goggles (as required).

5.4.6 Protective hard hat.

5.5 Preliminary Conditions for the Execution of the Work

5.5.1 The work team will comprise at least 2 workers.

5.5.2 The workers have been given safety training, including resuscitation training.

5.5.3 Entry to a pit/ enclosed area will be done only after the gas content has been checked, and found to be within the proper range (at least 15 minutes after the removal of the pit cover and its airing).

5.5.4 The worker entering the pit/ enclosed space must be tied with a rescue rope to the safety harness girdled on him.

5.5.5 An additional worker must stand at the side of the enclosed space, next to the entrance, with the safety rope tied next to his hand. He is to maintain constant contact with the worker in the pit and be ready to extricate the worker for any reason.

5.5.6 As needed, a rescue tripod will be positioned over the manhole pit.

5.5.7 The entire work team will be equipped with a vehicle, a Mirs communications device, a cellular phone in good working order (for communicating in emergency situations).

5.5.8 The pit has been visually checked by illumination with the flashlight, and probing with the pole, and has found to be free of crawling pests, or other safety hazards.

5.5.9 The place where the work is being carried out is known to the foreman/ team leader.

5.5.10 The workers have undergone training and are experienced in the operation of the measuring device.

5.6 The stages of the inspection of the pit/ enclosed space

5.6.1 Identify the pit/ enclosed space to be handled.

5.6.2 Clear the entrance to the pit/ enclosed space and the surrounding area and remove sand, stones, thorns and crawling pests.

5.6.3 Using an additional worker and using special handles only! (Designated opening equipment), lift the pit/ enclosed space cover and carefully move it aside!

5.6.4 If there are a number of openings, all the covers must be lifted prior to a worker entering the pit/ enclosed space.

5.6.5 Under no circumstances are the covers of the pit/ enclosed space to be replaced when the worker is still inside the pit!

5.6.6 **On platforms** – Position the screen bearing the sign **"Caution – Work in Progress – Do Not Approach – Open Pit"**.

5.6.7 It is forbidden to enter a pit/ enclosed space containing live insects.

5.6.8 Check the calibration of the measuring instrument, and make sure that the horn works.

5.6.9 Wait at least 15 minutes for the pit /enclosed space to ventilate, and introduce the measuring device up to a distance of 50 cm. above the floor level of the pit. Carry out the actions required to obtain a reading on the measuring device and check whether the reading falls within the permitted range.

5.6.10 The gas inspection is to be carried out continuously during the whole period the worker is inside the pit/ enclosed space.

5.7 The entry process of a man into the pit/ enclosed space

5.7.1 The worker is using the personal protective equipment.

5.7.2 The worker is wearing the safety harness.

5.7.3 The safety harness is tied to the rescue rope that is tied to the worker positioned outside the pit.

5.7.4 The worker sits carefully on the exterior ring of the pit /enclosed space (should he detect pungent or strange odors, he will not enter), and will carefully descend using the internal ladder.

5.7.5 Entry to a pit/ space inside a tunnel is forbidden for a sick person, who does not feel well.

5.7.6 Remember! Crawling pests are liable to be hiding in crevices in the pit/ enclosed space. Do not insert fingers into these places.

5.8 Emergency and rescue procedure

Should the communication with one of the workers be interrupted, or should a distress signal be received from a worker in an enclosed space,

the work shall immediately be halted and the preparations for the rescue of the worker be started.

Attention! Exert self-control, it is forbidden to enter the enclosed space without the instructions of the person responsible for the execution of the works, even for rescuing the worker in distress.

5.8.1 The person responsible for the execution of the works will immediately report to the Work Supervisor and to MABAT; tel: 04-8564999

5.8.2 External help will be summoned according to the arrangements set forth in advance: MDA, fire fighters, etc. The report shall detail the number of injured and the possibility of respiratory injuries.

5.8.3 In emergency situations it must be assumed that the environmental conditions in the enclosed space are toxic and immediate measures must be taken for improving the environmental conditions in the enclosed space, including accelerated feeding of clean air and opening additional covers as possible.

5.8.4 No artificial respiration or other treatments shall be performed in the enclosed space.

5.8.5 The injured must be extricated without causing him additional injuries, clean air or oxygen must be supplied to him as a first measure.

5.8.6 The injured must be evacuated in any case to receive medical care in a hospital, accompanied by a representative of the workplace, even if conscious.

5.8.7 The place of the incident shall not be left until it is ascertained that all the workers exited the enclosed space.

5.8.8 The Work Supervisor and the Safety Warden will conduct a safety inquiry of the event for lesson learning.

5.9 Completion of the work

5.9.1 Carefully exit the pit/ enclosed space.

5.9.2 Disconnect the rescue rope and remove the safety harness.

5.9.3 The person responsible for the execution of the works will personally ensure all the workers exited the enclosed space.

5.9.4 The person responsible for the execution will check and confirm the return of the equipment, closing of the covers, removal of the warning signs.

5.10 Work hygiene

5.10.1 Immediately upon exiting the pit/ enclosed space the worker is to carefully wash his hands, face and mouth.

5.10.2 Smoking, drinking and eating inside the pit/ enclosed space is expressly prohibited.

APPENDIX A

SAFETY CHECK LIST PRIOR TO THE EXECUTION OF THE WORK IN AN ENCLOSED SPACE

TO BE COMPLETED BY THE RESPONSIBLE FOR THE WORK ON SITE

a. Details of the enclosed space

Name of the place: _____Location (ID no.): _____

Description of the work to be carried out: _____

Date of the execution of the work: _____ Hour: _____

b. The work team includes:

1. _____ Profession: _____ Role in the team: _____
2. _____ Profession: _____ Role in the team: _____
3. _____ Profession: _____ Role in the team: _____
4. _____ Profession: _____ Role in the team: _____

Serial no.	Test details	Yes	No	Comments
1	Is it imperative to enter the enclosed space?			
2	Is the gas testing device well calibrated?			
3	Did you check the air quality inside the enclosed space?			
4	Is the oxygen concentration between 19% and 23%?			
5	Which toxic, explosive or oxygen repellant gases are present in the air in the enclosed space? Hydrogen sulfide (H_2S) _____ Carbon monoxide (CO) _____ Methane (CH_4) _____ Carbon dioxide (CO_2) _____ Other _____			
6	Will the atmosphere in the enclosed space be monitored during the execution of the work? Continuous check _____ Periodical check (every few minutes) _____			
7	Was the enclosed space well ventilated prior to the worker's entrance?			
8	Will the ventilation be continued during the execution of the work?			

Serial no.	Test details	Yes	No	Comments
9	If the first check of the air showed a deviation from the standard, had measures for the ventilation and air replacement been taken as a result, and if a second test of the air composition was performed, were the results OK?			
10	Had all the measures for the isolation of the work area been taken?			
11	Was the electricity shut down at the work area?			
12	Was any activity of electric and mechanic equipment halted in the work area?			
13	Was the supply of water, air, fuel, gas, etc. in pressure piping passing through the work area disconnected, and had the absence of high pressure been checked in the pipes?			
14	Detail required clothing and protective equipment			
15	Is suitable and usable respiratory equipment available?			
16	Is there any need to use respiratory equipment?			
17	Do the access openings to the space enable passage of a worker equipped with respiratory equipment?			
18	Were the workers trained in the use of respiratory equipment?			
19	Had the workers undergone first aid training? When did they refresh it?			
20	Were you trained for work in an enclosed space, and do you know what the hazards you must monitor are?			
21	Will a person be available outside? How the contact between him and the worker inside will be maintained?			
22	Will the outside person be able to see or hear directly the worker inside?			
23	Was the outside person trained in rescue procedures?			
24	Do you know what to do in case of emergency, whom to notify and whom to contact?			
25	Did the person responsible for the execution of the work report to the Work Warden on the entrance to the enclosed space, and did the Work Warden approve it?			

Details of the responsible for the execution of the work:

First and Last name:_____**Date:** _____

Hour: _____ **Signature:** _____

6. Safety instructions for work on bridges

6.1 Work at heights – definition – any works, including access to the workplace, that due to them a worker might fall to a depth exceeding 2 meters, and including such work:

(1) Work that is executed from a work platform without fencing or standard railing;

(2) Work that requires a person to bend its body at more than 45 degrees outside the fence or railing of the work platform or the passage sidewalk, as applicable;

(3) Work that is performed from a mobile raising platform, hoisting basket or mechanized scaffold

6.2 Work on bridges requires the installation of safety measures for the prevention of a fall to a depth exceeding 2 meters. If this is not practical under the circumstances, nets or stretched sheets will be mounted, or safety harnesses will be supplied for the prevention of a free fall to a depth exceeding 1.3 meters.

6.3 Workers will not be employed on bridges as above, unless measures were taken to prevent their falling, taking into consideration the bridge structure, its breaking, slope or the weather impact.

6.4 The person executing the work is responsible for the implementation of the Safety at Work Regulations (work at heights), 5767 – 2007.

6.5 Protection of a group of workers

6.5.1 The person executing the work will act according to the Safety Order 51831 – work in the vicinity of an active railway track

6.5.2 The person executing the work will act according to the last updated directives for railway operation

6.6 The responsibility of the person executing the work:

6.6.1 To receive professional guidance for the execution of the works on bridges from the person that ordered the work.

6.6.2 To receive safety training and safety instructions from the Railway Safety Warden.

6. Safety instructions for work on railway platforms

7.1 Execution of any work on railway platforms must be coordinated and have the approval of the Station Manager/ Shift Leader prior to commencing the work.

7.2 Work on the platforms by workers who have not undergone safety training and who are not using personal protective equipment, is not to be permitted.

7.3 The Station Manager has the authority to suspend the work of the contractor at any time should safety hazards be created at the railway station.

7.4 The contractor is required to continuously ensure the removal of hazards at the railway station.

7.5 The dates and times of the execution of the maintenance/ renovation of systems on the railway platforms are subject to the train schedule (at

times that are not a rush hour of passengers on the platforms).

7.6 Hot works: welding, cutting, grinding, polishing, at the railway stations will only be carried out after coordination with and the approval of the Station Manager, in the presence of a Railways worker and with the executing contactor's fire extinguishing equipment being available at the work site.

7.7 Handling of emergency situations/ fires on the railway platform:

7.7.1 All the workers on the platforms are to cease their work.

7.7.2 Equipment on the platform is required to be removed in such a manner that it does not create hazards.

7.7.3 All the workers are to evacuate themselves from the platform to a safe place – upper level.

7.7.4 Should a fire break out, the connection of the fire hoses to the fire hydrants and the commencement of fire-fighting activities is required.

7.7.5 Water is not to be sprayed in the direction of electrical systems on the platforms.

7.7.6 As required, assist those passengers requiring help, to evacuate the platform.

Chapter F – Safety in painting works

1. Painting works

1.1. General

1.1.1. Painting works expose workers to safety and health hazards derived from the work itself, from the materials used, the equipment, the facilities and the energy sources.

1.1.2. During the course of the painting work the worker is liable to suffer from respiratory and skin exposure to the paint components. The level of the health hazard to which the worker is exposed during the course of the painting is dependent on a large number of factors:

a. The paint components and their level of toxicity
b. The painting method
c. The environmental conditions
d. The presence of engineering control means
e. Personal protective equipment used by the painter

1.2. The main hazards:

1.2.1. Falling from platforms/ raised levels (scaffold, ladder, balcony/ platform without rails, roofs…), or falling to a basement, shaft…

1.2.2. The painter/ whitewasher is liable to slip, to fall and to bump into objects found at the work area, especially when the work area is neglected, the passages are crowded, various objects are thrown about and the illumination is inadequate.

1.2.3. The work of the painter/ whitewasher can be very strenuous and require very uncomfortable positions, it involves the performance of repetitive motions, and very often the carrying of heavy loads (paint cans, etc.). This may cause traumas, and in time, back, hands and arms pain.

1.2.4. The painter/ whitewasher is exposed during his work to toxic materials such as organic solvents, glues, paints, pigments and paint thinners. All those substances are liable to cause severe diseases if the required precautionary measures are not taken, including the use of personal protective equipment, as needed.

1.2.5. Organic dust (wood dust) and inorganic dust (stone, cement, asbestos dust) the painter/ whitewasher is exposed to are liable to cause severe health problems.

1.3. Any case of injury to a worker (or cases of almost accident) must be reported to the Railway Safety Warden.

2. Definitions

Painter/ whitewasher – worker employed in the whitewashing/painting of internal and external building surfaces and that is involved in the painting of dedicated assemblies and systems.

Applies coats of paint, lacquer and similar materials on internal and external building surfaces, decorations and fittings in order to protect and decorate them; mixes construction paints according to the shade and other requested

characteristics, by stirring of measured quantities of pigments, oil, and thinning and drying materials; builds scaffolds or erects ladders; removes old paint using a scrapper, metal brush, burner or liquid paint remover; cleans surfaces with a brush, cloth, or other abrasive material and seals cracks or holes with plastic wood or other filling material; applies the lower coat and other coats, one or more, of paint or other materials on a surface using a brush, a roller or a spray gun, can finish or decorate surfaces by creating effects such as spotted surfaces, wood, marble, or brick -like, or by painting with gold or silver using a stencil. Can paint fittings, sanitary appliances, adapters and other objects found in buildings, fences and other devices, can also apply wallpaper on walls (according to ISCO)

3. Occupational hazards

3.1. Accident hazards

3.1.1. Fall from platforms/ raised levels (high level, scaffold, ladders, balcony, rails, roofs), fall into a cellar, shaft, excavation or open pit, etc.

3.1.2. Fall, slip and stumble on a flat surface, especially while transporting construction materials.

3.1.3. Physical injury as a result of lifting, pushing and/or pulling different objects (scaffolds, trees, work tools, containers, etc.).

3.1.4. Stepping on sharp objects (such as board with nails, construction tools, metal nets, chisels…), bumping into/ being hurt or injured by sharp and protruding objects.

3.1.5. Crashing of organs or blows to other body parts while working in a position where the body is at heights.

3.1.6. Bruising of the skin as a result of constant rubbing into the steps of a ladder during the course of the work.

3.1.7. Traumas (cuts, injuries) caused by sharp objects or as a result of incorrect use of work tools.

3.1.8. Penetration of particles into the eyes during the course of cleaning and surface priming (for example while polishing and filing).

3.1.9. Irritation of the eyes or injury to the conjunctiva due to drops of solvents sprayed into the eyes.

3.1.10. Ignition and explosion hazard of flammable paints, solvents and other paint components, especially when working (painting or mixing paints) inside cellars where the ventilation is bad, and especially in the presence of an ignition source, such as electromechanical devices that emit sparks, smoking and so on.

3.1.11. Clothes are liable to catch fire, in the painting area and outside it, when they are soaked with paint or oil.

3.1.12. Accidents related to the spraying of paint from a broken pipe or when opening the nozzles of a sprayer that were blocked.

3.1.13. Asphyxiation in enclosed spaces, when a situation of oxygen deficiency is aggravated by the presence of solvent vapors.

3.1.14. Contact/ exposure to extreme temperatures (during outdoors works at extreme temperatures), burns (during sealing

processes that make use of gas burners) or cold injuries.

3.1.15. Electrocution as a result of work with electric tools with faulty insulation/ grounding

3.2. Physical hazards

3.2.1. Exposure to strong noise from mechanical work tools (sprayers, polishing machines, vacuum cleaner, cutting disk, etc.).

3.2.2. Over exposure to sun radiation during outdoors construction works without proper clothing, and to catching colds due to winds, in winter and rain.

3.2.3. Exposure to UV or IR radiation, or to heat originating from the paint drying equipment.

3.2.4. Exposure to environmental factors, including extreme heat or cold, high humidity, high or low environmental pressure, etc.

3.3. Chemical hazards

3.3.1. Eye irritation (including conjunctivitis and alkali burns) and of the respiratory system, as a result of exposure to floating construction dust generated especially during polishing, filing, drilling and demolition processes.

3.3.2. Dermatitis and eczema and allergic reactions as a result of direct contact with cement or cement dust.

3.3.3. Development of chronic obstructive pulmonary disease (COPD) as a result of the inhalation of cement dust, and development of chronic bronchitis, over cough, phlegm and runny noses.

3.3.4. Exposure to various solvents, including aromatic hydrocarbons.

3.3.5. Poisoning by paint removers such as methylene chloride or mixed solvents.

3.3.6. Neurological reactions due to work with materials that include hexane based solvents or lead paints.

3.4. Biological hazards

3.4.1. There are no special hazards.

3.5. Ergonomic, psychological and social hazards

3.5.1. Injuries to the musculoskeletal system, including injuries related to: posture during work: movement, lifting or bearing of heavy objects or voluminous; repetitive effort; constant overloading of joints.

3.5.2. Accumulating health damage as a result of many repetitive movements during the course of activities such as sand cleaning, scratching, painting, etc.

3.5.3. Musculoskeletal injuries as a result of incorrect work movements, including work in a bent position, painting of ceilings, stretching, etc.

4. **Safety instructions**

4.1 Safety instructions for the foreman

4.1.1 The foreman will instruct the workers in all the safety and hygiene directives at their workplace.

4.1.2 The foreman is to ensure that the worker was dressed in work

clothes, wears work/ safety boots and equipped with personal protection equipment adequate for the type and place of work.

4.1.3 The foreman is to ensure that the workers know the location of the fire extinguishing equipment and the instructions and procedures of fire warning during the course of an emergency situation, and to ensure that the workers were briefed by the railway Safety Warden in the operation of fire extinguishing equipment, respectively.

4.1.4 The foreman is to warn the cleaning workers against sharp protrusions, open tranches, uncovered pits, etc. at their workplace, that are liable to cause injury.

4.1.5 The foreman is to ensure that the work materials are not stored in electrical closets, or in storage areas where dangerous materials are present.

4.2 Safety instructions and preventive measures

4.2.1 Prior to the commencement of the work that worker must receive instructions from the foreman.

4.2.2 The signposting directives must be enforced at the facilities (smoke prohibition, eating prohibition, use of personal protective equipment, etc.).

4.2.3 The work platforms must be dully installed, to prevent their collapsing/breaking and the falling of a person or an object from them.

They are to be securely fenced using a hand balance, middle balance and foot panels in good working order and, if necessary, additional fencing measures. The openings and cavities are to be fenced. Ensure safe positioning of scaffolding and ladders to prevent their slipping or folding (double ladder).

4.2.4 Safety boots with special anti-slipping soles must be worn; the work surfaces can also be roughened (using different methods).

4.2.5 Personal protection equipment must be used, that is adequate for the protection of the body and the type of work, including a helmet, safety shoes, goggles, respirators, ear plugs, etc.

4.2.6 The work platform, passage side walk, floors and similar shall be free of protruding nails, tying ropes and any other obstacle.

4.2.7 Ventilate the work area where flammable or explosive vapors accumulate and refrain from using equipment or activities that generate sparks.

4.2.8 The clothing must be adequate for the weather conditions, it must be ensured that the worker drinks enough and dehydration must be prevented. Use gloves and protective clothing when handling very hot materials (such as bitumen sheets).

4.2.9 Do not use mobile electric tools with faulty insulation.

4.2.10 Direct contact with dangerous materials must be reduced to a minimum, skin protective material must be used, hands must be washed thoroughly on completion of the work and gloves must be used (priority to coated cotton gloves over leather gloves) as needed.

4.2.11 Protective respiratory equipment must be used (breather, air filtering mask, etc.) adequate for the type of polluted air.

4.2.12 The workers must be instructed to refrain from manually lifting heavy loads, and to use hoisting aids.

5. Work at heights

5.1. All the painting/ whitewashing works at heights will be carried out according to the Safety at Work Regulations (work at heights), 5767 – 2007.

The executing contractor will comply with the directives of the above regulations and will take the appropriate measures to ensure that all the workers respect the directives of the regulations relevant to his work.

Chapter G – Safety in gardening/ landscaping works

1. General

The gardening industry in general, and at railway sites in particular, are working places with the same hazards for workers as any other workplace.

1.1. During the course of gardening works the workers are exposed to a large variety of safety and hygiene hazards that impose the protection of the machines and the work area and the use of personal protective equipment by the worker.

1.2. During the course of gardening and landscape developing works the workers are exposed to hazards as a result of the proximity to the active railway track.

2. Job definition and/ or occupation description

Cultivates and maintains flowers, trees, shrubs and other plants in public and private gardens and on areas adjacent to active railway tracks. Its work includes: preparing soil, planting flowers, trees, shrubs and lawn and their current maintenance, use of chemicals for extermination of pests and disease factors, weeding, pruning, mowing, and so on, preparing garden beds, paths and passages, raising plants from seeds, cuttings, grafting , etc. May cultivate vegetable and fruits in private gardens, operates manual and mechanical agricultural equipment and sometimes handles its maintenance and repair, might handle the installation of rockeries, hedgerows, sheds, paving and stone surfaces, pergolas, fences, etc.

3. Main hazards

3.1. Works in the vicinity of an active railway track.

3.2. Hazard of falling from heights or on a flat surface and/ or slipping.

3.3. Poisoning as a result of inhalation or swallowing of pesticides and other dangerous chemicals.

3.4. Injury as a result of negligent handling of mechanical equipment.

3.5. Development of chronic diseases, allergies and infections as a result of contact with various hazard factors.

4. Occupational hazards

4.1. Accident hazards

4.1.1. Fall from a high place (ladder, raised platforms, roofs).

4.1.2. Falling or slipping on a plane (on mud, wet soil, lawn, soil lumps of soil, etc.).

4.1.3. Rolling over or falling from a tractor, other motor containers or from platforms towed by a tractor.

4.1.4. Bumping against stationary or mobile objects present in the garden.

4.1.5. Clothes parts being caught in a mechanical agricultural device in operation.

4.1.6. Accidents related to gardening tools (lawn mower, pruning

device, scissors, pitchforks, rakes, harrows, hoes, etc.) as a result of the device slipping, lack of awareness, stepping on discarded gardening tools, etc., having as a result scratches, cuts, stabbings, bruises, pinching, finger amputation, etc.

4.1.7. Stabbings and scratches caused by thorny plants, cactuses, etc. Sometimes sepsis may be caused as a result of the infection of the wounds.

4.1.8. Injury due to flying parts generated as a result of work with mechanical motorized gardening equipment, including injury to the eyes liable to be caused by branches.

4.1.9. Heat strokes, as a result of working for an extended period of time under the sun and under very high environmental temperatures that are liable of causing dehydration as well.

4.1.10. Electrocuting, as a result of a contact between metal irrigation pipes and low electric power lines, or as a result of a contact between irrigation water and an exposed power line, or during the course of work with electric tools with faulty isolation.

4.1.11. Spilling of acids (for example nitric acid used for tools sterilization) or other corrosive chemicals onto the skin, or clothes, or into the eyes causing chemical burns, burning, wounds, etc.

4.1.12. Severe poisoning from inadvertent swallowing or accidental breathing of pesticides or other agricultural chemicals.

4.1.13. Insect stings, such as bees, wasps and scorpions, snake bites, biting and scratching by dogs, liable to cause wounds, inflammation, local or general poisoning, etc.

4.1.14. Workers injury by passing trains.

4.1.15. Railway obstruction and interruption of the regular railway traffic by workers, equipment, materials and by damage to the track infrastructure.

4.2. Physical hazards

4.2.1. High levels of noise generated by mechanical equipment – lawn mowers, electrical saws etc. – are liable of causing damage to the eardrum and as a result to hearing.

4.2.2. Over exposure of the skin to sunlight, that causes damage to the eyes, burns and heat strokes and over-tanning that can lead to the development of melanomas due to over-exposure to UV radiation.

4.2.3. Heat/ cold strokes.

4.2.4. Hazards of common cold, work in rain and wind or due to over-sweating in summer.

4.3. Chemical hazards

4.3.1. Chronic poisoning due to long term exposure (breathing, swallowing or absorbing through the skin) to various agricultural chemicals containing heavy metals (cadmium, mercury, lead, arsenic) to various pesticides (insecticides, weeds killers, fungicides, field mice killers) to polycyclic hydrocarbons, detergents, fertilizers, fluorides, oil and its products, greases,

organic oils, calcium cyanimide, nicotine.

4.3.2. Dermatitis and other skin lesions as result of long term contact with agricultural chemicals or with solvents, or by systemic impacts generated by the inhalation of chemicals.

4.3.3. Increased risk of damage to the skin that was sensitized by exposure to chemicals, or to sunlight (cytotoxic influences).

4.4. Biological hazards

4.4.1. Contact with plants, flowers, weeds, etc. that have allergenic characteristics, for example: ficus benjamina, various cactuses, etc. that cause dermatomes, allergies, etc.

4.4.2. Dust inhalation, pollen, oils, vapors, etc. of plant origin, which cause hay fever, asthma, etc.

4.4.3. Infection of open wounds by contact with waste, animals and birds excretions, parasites, insects, worms, bacteria, viruses etc., that cause local or general infections, including tetanus, anthrax, etc.

4.4.4. Zoonotic diseases (transferred by animals) such as: Q fever, Malta fever, leptospirosis (caused by the penetration of Leptospira bacteria through cracked skin) etc.

4.4.5. Fungal diseases, caused by spores or fungi present in the soil or on plant leaves, for example: allergic aspergillosis, histoplasmosis (lungs infection), etc.

4.4.6. Parasitic diseases causes by tick or mite bites, etc., such as straw itch, by larvae that penetrated through wounded skin (for example diseases caused by band-worms, ascaris, etc.), in some cases the infection may cause neurotoxicity and paralysis.

4.5. Ergonomic, psychological and social problems

4.5.1. Repetitive hand movements, incorrect posture (such as when planting flowers or weeding), lifting or carrying heavy loads, etc. may cause pain in the lower back, pain in the upper and lower limbs, and a variety of musculoskeletal problems.

5. Safety instructions

5.1. General instructions

5.1.1. Original protection devices (of work tools) supplied by the manufacturers should not be removed or modified.

5.1.2. Prior to the commencement of the works the workplace must be inspected, branches, remnants of pruned branches, stones and objects, toys and sticks, and any other obstacle must be removed.

5.1.3. It is desirable and recommended to work in the morning and in day light.

5.1.4. Devices in operation shall not be left unattended.

5.1.5. Do not cross above paving stones, sidewalks, water canals, etc.

5.1.6. Do not fuel an operating device when its engine is hot.

5.2. Lawn mowers (self-propelled and manual)

5.2.1. Make sure that the guard on the grass catcher opening is set in

place and stable, in order to prevent the throwing of stones or soil lumps.

5.2.2. Ear protectors must be used – the noise level of most of the lawnmowers exceeds the permitted noise threshold (85 dB).

5.2.3. Make sure that the handle of the lawnmower is equipped with a brake that immediately stops the blade when the operator releases his grip from the pushing handle.

5.2.4. A lawnmower mounted on a tractor must be driven according to the driving and riding rules (especially in reverse). The machine should be handled in general, and in the blades area in particular, only after the device came to a complete halt.

5.3. Motorized string trimmer

5.3.1. The use of the harness that ensures the head of the string trimmer does not reach the operator must be ensured.

5.3.2. It must be ensured the heat guards on the engine are mounted.

5.3.3. Noise protection personal equipment must be used.

5.3.4. It is absolutely forbidden to operate the device in an area where additional persons are present on a radius of 15 meters.

5.3.5. It must be ensured that the rotating head guard is in good working order and intact and objects and stones are not blown back.

5.4. Leaf blower

5.4.1. A dust mask must be used.

5.4.2. Noise protection equipment must be used.

5.4.3. Keep a work radius area of 15 meters from other persons.

5.4.4. Tempered goggles must be used.

5.5. Hedge trimmer, chain saw

5.5.1. The tool is permitted for use by an experienced worker only, knowledgeable and experienced that knows all the tool hazards!

5.5.2. The presence of the hand guard and the brake that immediately stops the operation when the hand that holds the saw is removed must be ascertained.

5.5.3. The saw blade must be covered upon completion of the work.

5.5.4. Mandatory personal protective equipment:

Ear protectors

Tempered goggles

Long and well buttoned clothes

Safety boots

It is requested to keep at distance from other persons and passers by

Recommended: leather protectors for knees and elbows

5.6. Spraying – spraying materials, pesticides and fertilizers

5.6.1. General: most of the compounds used for gardening belong to the group of organic phosphorus compounds and they are carcinogenic. All the measures, indications and warnings mentioned on the products leaflets must be obeyed, and the

preparations must be used according to all the compelling instructions.

5.6.2. Weather influence on spraying – spraying must be carried out under optimal weather conditions, meaning without gusts of wind and in mild temperatures.

5.6.3. The team leader will consider the execution of exceptional works according to the field conditions. It is prohibited to work when the wind speed exceeds 10 knots and the temperature exceeds 35°C or in continuous rain.

5.6.4. Work being carried out in windy conditions requires awareness, as follows:

a. The checking of agricultural /cultivated land in the vicinity.

b. The addition of non-drift materials.

c. Execution of the spraying only with the wind direction.

* In this case, the increase of the spraying space clearance must be taken into account in accordance with the force of the wind.

5.6.5. The type of equipment must be taken into account when spraying under windy conditions.

Spraying with a bellows in wind of force of over 5 knots is **prohibited**.

5.6.6. The spraying team and the team leader are responsible to their superiors and to the company (worker responsibility) for the execution of work. In accordance with the directives, and they have to take the following actions:

a. To refrain from working under windy conditions and in close proximity to Railways workers working on the railway tracks.

b. To refrain from spillage and from the filling of materials on cultivated lands (emptying of containers).

c. To prevent leaks from a container or from the spraying tubes and from the nozzle system or from the pumps.

d. Remnants of spraying material are only to be emptied out at a place where such is permitted.

e. All empty pesticides containers are to be returned tightly closed to a central point.

f. While spraying - Refrain from spraying on slopes and inclines at the bottoms of cultivated fields and maintain a reasonable security distance.

g. Spraying materials and quantities in contradiction to directives are not to be used.

5.7. Execution of cutting down and pruning work

5.7.1. It is the responsibility of the contractor to prepare access roads to the place of work in such a manner that the movement of trains and people is not put in danger.

5.7.2. The contractor will prune and cut down trees and branches that will be so indicated by the inspector.

5.7.3. The contractor will prune vegetation up to distance of 3 meters from the railway track and in accordance with the inspector's instructions.

5.7.4. When pruning bushes and high trees, the contractor will take all the necessary safety measures to protect workers and to prevent tree trunks falling onto the railway tracks.

5.7.5. In work at heights, the execution of cutting down and pruning at heights will be conducted in conformance with the Safety at Work Regulations (work at heights), 5767 – 2007. The executing contractor will comply with the above directives and will take appropriate measures to ensure that each and every worker complies with the directives relevant to his work.

Under no circumstances may a boom of such a device penetrate the clearance (gabarit) area of the railway track.

5.7.6. Pruning work or the cutting down of trees is not to be carried out when a train is passing.

5.7.7. The contractor will be responsible for obtaining all the necessary licenses and permits required for the execution of the pruning work, including transport licenses from KKL, or from the local authorities.

5.7.8. Should coordination be required with additional entities, such as: the police, the Israel Electric Corp., the Public Works Department, a local authority, then the responsibility for such will fall on the contractor.

5.7.9. Removal of pruned branches upon completion of the work

a. The contractor will immediately remove any pruned branch that falls on the railway tracks.

b. Upon completion of the pruning, all the bushes/ trees will be removed to outside of the Railways compounds.

c. The burning or the interment of pruned branches is expressly prohibited within the Railways compounds.

d. The loading of pruned branches for removal by truck will be carried out using suitable lifting equipment or manual labor, and under no circumstances will this work endanger the movement of trains.

5.8. Operation of the spraying carriage for the extermination of weeds

5.8.1. The executing contractor must be in possession of a valid Toxin Permit.

5.8.2. It is the responsibility of the executing contractor to ensure that his workers carrying out the spraying work are experienced and knowledgeable in working with spraying materials, after having undergone safety training at the Railways.

5.8.3. The contractor must provide his workers with specific safety directives for the execution of the extermination work and the use of spray materials.

5.8.4. The contractor executing the spraying within the Railways compounds must equip his workers with all the personal protective equipment items required for the execution of the

spraying work, while traveling in a spray carriage.

5.8.5. It is the responsibility of the contractor to replace personal protective equipment items that are worn or that are in a state of disrepair.

5.8.6. The workers must use the personal protective equipment items that are supplied to them by the contractor and in any case work with extermination materials is not to be carried out without the use of personal protective equipment.

5.8.7. The contractor must submit to the Railways a list of dedicated personal protective equipment items that his workers must use as a result of exposure to spray material.

5.8.8. Dedicated personal protective equipment suited for the execution of the extermination work, will be stored in locked cupboards in the cabins.

5.8.9. The Railways worker accompanying the spray team will wear identical personal protective equipment.

5.8.10. The list of ancillary equipment on the spray carriage:

a. Two full water jerry cans, 20 liters each (responsibility of the spraying contractor)

b. Empty plastic barrel with rags (responsibility of the spraying contractor)

c. Two plastic bags for the collection of rags soaked with pesticides (responsibility of the spraying contractor)

d. Two road brooms (responsibility of the spraying contractor)

e. Mobile flashlights

f. PVC gloves

g. Instructions for treatment in case of poisoning (responsibility of the spraying contractor)

h. First aid kit + anti-toxins (responsibility of the spraying contractor)

i. Fire extinguisher

j. MIRS device in good working order (hold by the Railway worker)

5.8.11. Filling of the spray tanks, inspection and execution of the spraying

a. The filling of the spray tanks will be carried out in accordance with all precautionary measures (under the responsibility of the contractor).

b. The filling of the tank will be carried out only by workers of the contractor who have been qualified to work with toxic materials (under the responsibility of the contractor).

c. The filling of the spray tank will be carried out at the time when there is sufficient lighting at the site and only after the spray carriage is at a state of rest (under the responsibility of the contractor).

d. Mixing/ stirring inside the tank will be carried out by means of suitable tools and only after the spray carriage is at a

state of rest (under the responsibility of the contractor).

e. It is expressly prohibited to open the lids of the containers when the spray carriage is in motion (under the responsibility of the contractor).

f. The filling of water into the storage tanks will be carried out by the contractor's workers.

g. The good working order of the spraying system will always be checked prior to the trip, by the contractor's workers.

h. During motion, it is expressly prohibited for workers to move across the surface of the spray carriage.

i. The spray tanks will bear standard signs with respect to the type of spray material stored within (under the responsibility of the contractor).

j. **The spraying action will be carried out in motion under towing only at a speed that does not exceed 10 km/h**.

k. There will be M.S.D.S. information sheets of extermination material used for spraying, in the cabins (under the responsibility of the contractor).

l. Repair/ service of the spray system in the carriage will be carried out only by the contractor's workers after the closure of the taps in the tank, the cleaning of the system and its washing out with water (under the responsibility of the contractor).

m. Under no circumstances are services/ repairs to be made to the system when the carriage is in motion (under the responsibility of the contractor).

n. During motion, the mobile containers of pesticides will be secured against tipping on the carriage's surface.

o. It is prohibited for the workers on the carriage to eat during the time of the execution of the spraying process.

p. While spraying, the contractor's workers are to take the wind direction and its force at the spray site, into account.

q. It is prohibited to spray in the direction of passenger platforms or places where people are found (under the responsibility of the contractor).

r. It is prohibited to spray in the direction of water canals

5.8.12. Planning and execution of the trip (general safety directives)

a. Prior to the operation of the spray carriage, the work train driver and the safety inspector are to hold an explanatory discussion with the contractor's workers, regarding the character of the expected work.

b. Prior to the trip, the safety inspector is to ensure that the contractor's workers have undergone preliminary safety training.

c. The safety inspector must report to his superiors regarding any failure or deviation from the safety regulations detected during the course of the trip.

d. The safety inspector will accompany the contractor's

workers on the spray carriage, and only in the designated cabins.

e. Under no circumstances is spraying to be carried out when the safety inspector is not present on the spray carriage together with the contractor's workers.

f. The safety inspector is to be equipped with a working MIRS communications device, to be able to be in constant contact with the driver of the work train.

g. The contractor's workers are to obey the instructions of the safety inspector.

h. It is expressly prohibited to smoke on the spray carriage.

i. Emergency stopping of the work train will be executed by the pulling of the emergency brake handle.

j. The maximum speed of the work train is 40 km/h.

k. During the trip, the workers are to remain seated in their seats and be strapped in with their safety belts.

l. During the trip to the work site, it is desirable that the workers travel in the towing carriage.

m. **The operation of the spray carriage will be only under towing**!

n. **All the entrance openings to the carriage are to be closed during the entire course of the trip.**

5.8.13. Boarding/ alighting from the spray carriage

a. Will be carried out as far as possible from a railway station platform.

b. If the carriage is not standing next to a platform, it will be carried out only in the presence of a safety inspector.

c. The safety inspector will be present at all times together with the contractor's workers, including during the trip on the spray carriage.

d. During the time of the descent of the contractor's workers to the tracks next to the work carriage, the inspector is to be in close proximity and supervise their safety in order to warn of an approaching train. He is to be equipped with a means of warning (a horn).

5.8.14. Activities upon the completion of the spraying work

a. Upon completion of the work, it is the responsibility of the contractor's workers to rinse the floor of the spray carriage, the containers and around the pump, with water, of all remnants/ traces of spray material (under the responsibility of the contractor).

b. Should large quantities of pesticides have been spilled on the floor of the carriage, these are to be soaked up initially by means of rags and collected into waste containers (under the responsibility of the contractor).

c. The contractor's workers are to lock the spray tank lid in the carriage, with a lock (under the responsibility of the contractor).

d. Upon completion of the workday, it is the obligation of the contractor's workers to remove all the portable containers with spray material (including empty containers), from the railways compounds.

e. It is the responsibility of the contractor's workers to ensure that there are no leaks of pesticides from the spray tubing and that all the taps on the spray tanks on the carriage are closed.

5.8.15. Connection/ disconnection of the spray carriage

a. Will be carried out only by a Railways worker who has undergone training and has been qualified to this purpose, switchman.

b. After the connection of the train, a check of the braking system will be carried out.

c. After the disconnection of the motor carriages, it is the responsibility of the Railways worker to secure the carriage against movement.

d. During the time of the connection / disconnection of the carriage coupling and electricity system, the Railways workers must use rubber gloves in order to prevent contact with the pesticides.

5.8.16. Periodical inspection for the state of working order of the spray equipment

a. It is the obligation of the contractor to carry out an inspection of the good working order of the spraying system once every 6 months: Storage tanks, tubing, pumps on the spray carriage and to authorize in writing that they are in good working order.

b. In any case of the detection of a malfunction in the carriage spraying system, the spraying work is not to be continued until the repair of the malfunction (under the responsibility of the contractor).

c. In any case, the responsibility for the spraying and the good working order of the spray system in the carriage falls on the executing contractor.

5.8.17. Emergency stopping of the spray carriage

a. If, during the trip, there are strong vibration from the carriage.

b. In any case that danger is imminent to the workers on the carriage, it is imperative to pull the emergency brake handle in order to stop the train, such as:

- A worker on the carriage has fallen and been injured.
- There is a malfunction in the spray system, such as pesticides pouring on the floor of the carriage, the spraying system is inoperative.
- A worker does not feel well due to exposure to pesticides.

Chapter H – Safety in the pest extermination work

1. Pest extermination works

1.1. General

1.1.1. Chemical compounds (pesticides) used by pest exterminators, in general, are toxic to humans. They a liable to cause severe or chronic poisoning, burns, skin, eye, throat damage and other injuries, and to be harmful in other situations.

1.1.2. A number of pesticides are flammable. Their negligent handling and storage is liable to cause fire.

1.1.3. Pest exterminators often work in uncomfortable postures and handle heavy loads, that are liable to cause injuries, and in time back, hands and arms pain.

1.2. Definition or description of the occupation

Sprays chemical solutions and mounts mechanical traps to exterminate pests present in buildings, offices, compounds, and in the neighboring areas. Fumes rooms and buildings using toxic gases, sprays chemical solutions or dusts in rooms and at workstations. Applies toxic creams or baits and sets mechanical traps in places where pests are present, using rakes, brooms, shovels and rags prior to the performance of the fuming. He may be required to hold a state license as certified exterminator.

1.3. Occupational hazards

1.3.1. Accident hazards

- Falling from raised platforms, roofs and stairs, in particular while carrying containers and other heavy loads
- Falling on flat surfaces (on slippery surfaces, or due to obstacles, and in particular while putting on the protection mask that limits the field of vision)
- Falling of heavy loads, in particular containers, on the worker's feet
- Risk of hernia due to overstress while lifting and unloading heavy loads.
- Increased risk of road accidents due to long periods of driving of overloaded vehicles, mostly attached to towed devices and other mechanical spraying equipment, on field roads.
- Electrocution due to contact with faulty electromechanical equipment.
- Severe poisoning while using pesticides (in particular as a result of the inhalation of aerosols when not wearing a protective mask, a fact that constitutes a death hazard), or as a result of the spillage of material, or fire, during the transportation and storage of the pesticide.
- The exterminator becomes soiled in the process of the mixing and diluting of high concentrations of dangerous pesticides

- Contact with the skin or swallowing of pesticides due to contamination, splashing, or spilling, in particular during the preparation, mixing and filling activities
- Accidental inhalation of pesticide spray (caused by a sudden change of wind direction, or by a bad choice and maintenance of the protective mask, etc.)
- Risk of accidental swallowing of liquid pesticide that resembles by its look to drinking water, or irrigation water that was contaminated with pesticides.
- Out breaking of spray containers under overpressure, resulting in a splash of pesticides that is liable to injure the operator.
- Severe poisoning due to the release into the air of compounds (such as NOx, SO_2, HCN, etc.) during the course of an accidental fire (fire or explosion) or planned fire (as a result of bad judgment) fire of pesticides or containers.
- Cuts and stabs caused by sharp objects
- Bites and stings by rodents and insects, etc.
- Fire hazard due to negligent storage of flammable pesticides.

1.3.2. Physical hazards

- Exposure to UV direct or reflected (sun) radiation during outdoor works that is liable to cause, redness of the skin, burns, skin cancer and photo keratitis.
- Exposure to harsh weather conditions, in particular heat (that has several impacts, from uneasy temperature to heat stroke), high humidity, cold, etc.
- Exposure to body vibrations caused by inadequate vehicle suspension, uncomfortable seats, etc.

1.3.3. Chemical hazards

- Chronic poisoning due to exposure to various pesticides, that is liable to develop into a disease or death
- Various effects on the skin (tingling, erythema, skin infections, blisters, irritation, sensitivity, skin sensitivity, etc.) as a result of exposure to other gas forms of the pesticides, and in particular due to direct contact with the skin
- Chloracne, and Porphyria Cutana Tarda, due to contact with pesticides from the chlorinated hydrocarbons group
- Eye irritation, cataract, injury to the cornea, in particular in persons involved in the spraying of pesticides
- Mouth and throat irritation, burns and mouth ulcers in spraying workers
- Various lung diseases, pneumonitis, asthmatic reactions, alveolitis, pneumoconiosis, (due to the dusting with pesticides), etc.

- Various gastro-intestinal effects such as abdominal pains, pain spasms, convulsions, diarrhea, nausea, dizziness, headaches, lack of consciousness or decreased consciousness, loss of consciousness, etc.)
- Neurotic system disorders, including neural toxicity, unsteady posture, nervous diseases, the effects of neural behavior, insomnia, etc.
- Disorders of the endocrine and reproductive system, including infertility, spontaneous miscarriage, stillbirth, bareness, born defects, etc.
- Effects on blood and the blood system, as a result of exposure to pesticides and in particular to chlorinated hydrocarbons and organophosphorus compounds
- Musculoskeletal and soft tissue problems and other systemic effects
- Cancer diseases including: bladder, brain, liver, lungs, gastrointestinal system, respiratory system, blood cancer, carcinogenic and other mutagenic effects.

1.3.4. Biological hazards

- Danger of contracting Zoonotic diseases transferred by flees, mosquitoes or other bugs, during the extermination work.

1.3.5. Ergonomic, psychological and social problems

- Back pain amongst works with manual sprayers
- Acute Musculoskeletal injuries caused by high physical efforts and incorrect posture while carrying heavy loads of handling containers and other heavy equipment
- Fatigue and bad general feeling
- Psychological stress as a result of the fear of overexposure to pesticides and to the failure to pass the periodic health check.

1.4. List of prevention measures

1.4.1. Wear safety boots with anti-slipping soles.

1.4.2. Protective masks shall be worn while working with pesticides or other chemical substances.

1.4.3. Hands should be protected by gloves resistant to chemical compounds; if this is not possible, a protective ointment should be used.

1.4.4. It is prohibited to eat or smoke while working with pesticides, acids, poisons or other toxic chemical substances.

1.4.5. When tap water is not available, only bottled water, water supplied in containers marked "drinking water", or soft drinks in bottles or cans shall be used. Liquid pesticides must be stored in bottles with a special shape, used only for this purpose.

1.4.6. Suitable goggles must be used: if needed consult with the Safety Warden or the supplier.

1.4.7. A high personal hygiene level must be maintained. At the end of each shift workers must take a shower and change clothes. It is prohibited to take dirty work clothes home.

1.4.8. Correct methods of lifting and moving heavy or cumbersome loads must be acquired. Mechanical tools that aid in the process of lifting must be used.

1.4.9. An occupational doctor must be consulted (blood tests, etc.).

1.4.10. The worker must be instructed to take the accepted universal hygiene measures; in cases when a vaccine against a specific disease is available it must be given to the worker.

1.5. Work at heights

1.5.1. Works at heights will be carried out according to the Safety at Work Regulations (work at heights), 5767 – 2007.

The executing contractor will comply with the directives of the above regulations and will take the appropriate measures to ensure that all the workers respect the directives of the regulations relevant to his work.

1.6. Laws and regulations

The executor of the extermination works is responsible for the application of the ordinances, the laws and the procedures, by any law, concerning the execution of his works, including:

1.6.1. Safety at Work Regulations (workers with pesticides), 5724 – 1964

1.6.2. Safety at Work Regulations (occupational hygiene and health of workers using organic and carbamates phosphorous and pesticides), 5753 – 1992

1.6.3. Safety at Work Regulations (safety sheets, classification, packing, labels on packages), 5758 – 1998

1.6.4. Hazardous Substances Regulations (classification and exemption), 5756 – 1996

1.6.5. Safety at Work Regulations (Personal Protective Equipment), 5757 – 1997

1.6.6. Safety at Work Regulations (work at heights), 5767 – 2007

1.6.7. Hazardous Substances Law (pesticides and poisons permit), 5753 – 1993

1.6.8. Organization of Work Control Law, 5714 – 1954

1.6.9. Safety at Work Ordinance (new version), 5730 – 1970

Chapter I – Safety in cleaning/ sanitary work

1. Cleaning works

1.1. General

1.1.1. Workers employed in cleaning works are exposed to injuries as a result of slipping, electrocution, contact with chemicals, bumping into sharp objects, etc.

1.1.2. Any case of injury to a worker (or cases of almost accident) must be reported to the Railway Safety Warden.

1.2. Definitions

Worker: a cleaning work belonging to the company or to an external contractor that carries out cleaning/ sanitary works on external areas, on the area that belongs to the company and its surroundings, in the buildings in the facilities, carriages and locomotives.

1.3. Safety instructions for the foreman

- The foreman will instruct the workers in his department in all the safety and hygiene directives at the unit and their workplace. In places where hazards exist such as: metal coating, cyanide treatment, radiation and heating facilities, etc. the foreman will instruct the cleaning workers that after work hours, a single worker will not be employed in those places, but two workers at least.
- The foreman is to ensure that the worker is dressed in work clothes, wears work/ safety boots and equipped with personal protection equipment adequate for the type and place of work.
- The foreman is to ensure that the cleaning materials stock at the unit is stored in standard and well closed containers, bearing an identification label, and in the designated place.
- The foreman is to ensure that the cleaning workers know the location of the fire extinguishing equipment and the instructions and procedures of fire warning during the course of an emergency situation, and to ensure that the workers were briefed by the Railway Safety Warden in the operation of fire extinguishing equipment respectively
- The foreman is to warn the cleaning workers against sharp protrusions, open tranches, uncovered pits, etc. at their workplace, that are liable to cause injury.
- The foreman is to ensure that the cleaning materials are not stored in electrical closets, or in storage areas where dangerous materials are present.
- A cleaning worker is forbidden from using "private" cleaning materials on the locations where the cleaning works are performed.

1.4. General safety instructions for the cleaning/ sanitary worker

1.4.1. Prior to the commencement of the work the worker will receive instructions from the foreman.

1.4.2. The instructions of the signposts at the facilities must be respected (smoking, eating prohibition, use of personal protective equipment, etc.).

1.4.3. An external inspection of the electric equipment must be performed such as: vacuum cleaner, floor washing machine, carpets cleaning machine, etc. prior to their operation. In case of failure the foreman must be approached.

1.4.4. Oil puddles must be removed immediately after their appearance, by spreading sand or an absorbing material, and after several minutes the surface must be swept. Then the place must be washed.

1.4.5. While washing and/or waxing halls, corridors a mobile sign must be posted "Warning – Wet Floor – Danger of Slipping". It is prohibited to leave puddles or obstacles upon completion of the cleaning work. If work must be stopped, the foreman must be informed and the place must be secured by fencing and signposting or any other means. Used water must be directed into the designated draining systems only and not into gardens or other surfaces.

1.4.6. Rags soaked with fuel or oil, as well as wood chips, paper and other waste must be collected into designated waste baskets, and care should be taken not to throw burning cigarettes stubs into those containers.

1.4.7. Waste shall not be discarded into the draining systems.

1.4.8. Glass fragments shall be collected with a brush/ broom only into a dustpan or other vessel.

1.4.9. Burned fluorescent bulbs must be collected into the designated container

1.4.10. During the performance of the cleaning works, should the worker be required to lift a load that is too heavy for him, he must seek the help of another worker or use mechanical aids.

1.4.11. Workers shall not stand inside the vehicle and shall not sit on the vehicle side during the waste disposal trip or during waste unloading. The driver must enforce this instruction.

1.4.12. During the loading/ unloading of the waste/ garbage using mechanical tools workers shall not stand under the lifting loader.

1.4.13. It is prohibited to mount on windowsills for the purpose of cleaning them for the outside. This work must be done only by standing on a ladder/ stable device or by using a suitable safety belt.

1.4.14. A cleaning worker that uses stinging liquids shall wear special goggles against stinging liquids.

1.4.15. Work at heights - Work at heights will be carried out according to the Safety at Work Regulations (work at heights), 5767 – 2007. The executing contractor will comply with the directives of the above regulations and will take the appropriate measures to ensure that all the workers respect the directives of the regulations relevant to his work. In cleaning works at heights only ladders/ scaffolds in good working order shall be used that are suitable to the type of work. Improvised means such as chairs, benches or boxes shall not be used.

1.5 Electricity hazards

1.5.1 It is forbidden to wash or to spray water on machines/ devices and tools that contain electric parts. Prior to the commencement of the cleaning activity, the devices and the machines will be disconnected from the electric circuits, in coordination with the department managers.

1.5.2 During the course of the cleaning works, it is forbidden to touch electric machine/ device parts such as push buttons, booms, control devices, etc. that are liable to cause hazards and injuries to workers as a result of inadvertent operation.

1.5.3 In case of failure, it is forbidden to touch the electric device or to perform any activities on it such as disconnection from the electric circuit. In this case a certified electrician shall be summoned or the safety warden.

1.6 Hazards in handling chemical cleaning materials/ dangerous materials

1.6.1 The contractors performing cleaning/ extermination/ painting works to act according to law and the compelling regulations, in regard with the performance of their work. Chemical cleaning materials will be kept in standard containers, bearing a label mentioning their content; they will be stored in the designated place.

1.6.2 It is prohibited to use drinking bottles for the storage of chemicals.

1.6.3 It is forbidden to use any kind of containers not intended for the storage and use of chemicals/ acids, including transfer from container to container, or dilution of a substance.

1.6.4 Acids used for cleaning such as hydrochloric acid (fire water) will be kept in a locked place. The use of those acids is permitted only under the approval of the foreman.

1.7 Protective clothing and equipment

1.7.1 Clothing: The worker must wear close fitting work clothes, without loose parts, unbuttoned sleeves and loose belt. Bracelets and chains wearing are not permitted. The worker must wear work/safety boots. Under no circumstances will the worker be permitted to wear sandals, cloth shoes or open back clogs.

1.7.2 Protective equipment: During the course of the handling of waste/ garbage that contains sharp or heavy objects protective gloves shall be used. When working with chemical materials, including during their preparation, mixing or dilution, gloves, goggles, face protection and apron shall be used according to the type of work. The equipment will be adequate for the nature of the work and the body structure of the worker.

1.8 Cleaning of railway carriages

1.8.1 The foreman must ensure that the carriages are secured against movement.

1.8.2 Manual washing of carriages and locomotives will be carried out on the side on which there is no movement of railway vehicles. The foreman must make sure the securing of the section is performed for purposes of executing this work, to ensure the

safety of the workers.

1.8.3 Portable electric equipment should be used for cleaning only when the carriages are parked,

1.8.4 Garbage collection during a train journey/ train parking at the stations will be carried out in the absence of passengers in the carriages.

1.8.5 It is hereby emphasized that work on the roofs of train carriages is permitted only if the worker is secured against falling by means of safety means that prevent falling.

1.9 Safety in handling and operating the carriage washing device – general instructions

1.9.1 The operator must use all the personal protective equipment items.

1.9.2 Do not operate the device except after having read and understood the instructions and operation processes and act in accordance with them.

1.9.3 Repairs/ actions that are not recommended or defined by the manufacturer are not to be carried out on the device.

1.9.4 Prior to each dismantling or assembly procedure or removal of protective covers from the equipment, disconnect the electricity supply.

Lock the main switch in the open position, or remove the fuses from the electricity board.

1.9.5 Hang up the warning sign "Working on the device - Do Not Connect the Electricity Supply" on the main switch.

1.9.6 Close the taps connecting the air receiving tank to the tubing, on the air compressor. Hang up the warning sign "Working on the Apparatus - Do Not Open".

1.9.7 Release the pressure in the air tank by opening the drainage tap.

1.9.8 Ensure that the equipment in the apparatus will be free, as far as possible, of oil, dust and contamination.

1.9.9 While paying strict attention, tighten all the control and safety accessories. They are not to be disconnected and do not cause their blockage by the accumulation of oil or paint.

1.9.10 Do not use organic solvents to clean the parts of the device.

1.9.11 The maintenance and servicing of the equipment will only be carried out by skilled workers.

1.9.12 Should defects be detected in the equipment/ device, it is imperative to report them immediately to the Device Manager.

1.9.13 It is expressly prohibited to enter underground reservoirs without taking suitable measures and only after receiving authorization from the qualified entity.

1.9.14 The entry of people to the washing device area, during its operation, is expressly prohibited.

1.9.15 It is imperative to make sure to act in accordance with the warning signs hanging at the device.

1.9.16 There are three emergency stop buttons on the device: One at

each end of the washing device, and another on the left side of the control panel.

Every week, it is compulsory to check the good working order of all the emergency stop buttons and to conduct a logbook on the subject

1.10 Filling of cleaning material into the tank

1.10.1 Ensure that the material that you fill into the tank is the suitable material.

1.10.2 It is mandatory to use personal protective equipment: Rubber gloves and goggles, when operating the pump.

1.10.3 Transfer of the material from the drum to the storage tank will be carried out by means of an immersed pump.

1.10.4 Ensure that the filler pipe is securely connected to the filler tank.

1.10.5 Ensure that you do not fill cleaning material beyond the capacity of the tank.

1.10.6 Upon completion of the filling, rinse the pump with water and return it to its place.

1.10.7 Remove the empty container from the site.

1.10.8 Do not fill cleaning materials into the tanks when the washing apparatus is in operation.

1.11 Operation of the air compressor

1.11.1 Operation of the compressor is only permitted by people who have been qualified to do so.

1.11.2 Check that the level of the oil is above the inspection window.

1.11.3 Check that the filter cap is properly attached.

1.11.4 Check that the pressure gauge at the air end indicates 0.

1.11.5 Check whether there are signs of oil leaks.

1.11.6 Check that the air exit valve is open.

2. Execution of Work at Sanitation / Drainage / Sewage / Drain Facilities

2.1 General

2.1.1 Sewage works expose the workers engaged in them to many factors that are liable to affect their health. In cases when part of the work is carried out underground, the workers are exposed to hazards such as oxygen deficiency. In many other cases, there is the danger of exposure to hazardous substances. Amongst the substances hazardous to humans present in the sewage system the following may be mentioned: gases, vapors, fog, smoke and dust

Those substances may cause poisoning. The severity of the poisoning is dependent on the following factors:

a. The type of substance

b. The concentration of the substance

c. Physical and chemical properties of the substance

d. The exposure period to the substance

2.1.2 Prior and during the course of the execution of the work related to the sewage system the following steps must be taken:

- ✓ **Review of the documents that detail the sewage system at the municipality/ local council** – the planner of the work shall receive accurate information regarding the sewage system. In particular it must be known of which materials the system is made of, what is its deployment, the type of sewage that the system handles and the special hazards related to them.
- ✓ **An introductory visit to the area** – upon the receipt of the information from the authorities a visit shall be organized at the site in order to ensure the information provided is accurate.
- ✓ **Checks of the air in the sewage system** – the air in the sewage system must be analyzed using one of the instruments available on the market, such as a Kohler instrument. Two main components must be checked:
  - o The presence of toxic gases – for example carbon dioxide CO_2 and methane CH_4
  - o The oxygen percent in the system – when the oxygen percent is lower than 17%, the normal functions of the human body are impaired. Under 15% there is a danger of paralysis and fast death
- ✓ **Opening of the covers of the sewage system for a certain period of time** – in order to ventilate the system, especially from toxic gases, it is customary to open the covers of the system for a certain period of time. It is important to take care to close the covers in order not to contaminate the environment.
- ✓ **Checking the presence of reptiles** – a sewage pit may host rats and snakes. During the above mentioned inspection it must be ascertained that the said pest to not constitute a hazard.
- ✓ **Fencing and signposting of the entrance points to the sewage system** – fencing is intended to prevent the worker from falling into the sewage system. The purpose of the signs is to inform both the workers and the public that sewage work is carried out in this place.

2.2 Hazards and protective equipment in sewage work

2.2.1 Hazards derived from the pipeline structure

In many cases, the sewage pipes are coated prior to their mounting in the sewage system, in order to ensure resistance and insulation. Insulating materials such as tar, bitumen and asbestos are liable to cause problems when coming into contact with the skin, and on prolonged exposure, even to cause cancer.

Protective equipment: Rubber or neoprene gloves are effective in the prevention of the contact with the skin.

2.2.2 Direct injury from materials passing through the pipeline during dismounting and mounting

When pipes are connected to the sewage system, the workers are exposed to the materials that flow inside the system. Amongst those materials are chlorine found in the water, hydrogen sulfide, created from the decomposition of the sewage and chemical waste.

Protective equipment: rubber gloves are effective in such cases, especially due to their resistance to water. When a large part of the worker's body is exposed to the substances, rubber boots must be used, that will prevent the penetration of the substances in the direction of the legs, and if needed, rubber overalls shall be used. In the presence of toxic substances, eye and respiratory protection must also be used.

2.2.3 Injury from materials accumulated on the pipeline bottom

In addition to the hazards mentioned in the above paragraph, sediments are sometimes formed on the bottom of the pipeline. Those sediments, that contain sulfur, salts and various chemicals, are harmful on contact with the skin and may sometimes be toxic and harmful to the respiratory system.

Protective equipment: Suitable clothes must be used, as described in paragraph 2.2.2. If there is any doubt as to the presence of toxic materials, masks with filters that filter toxic substances must be used. In certain cases a respiratory instrument must be used that includes an oxygen cylinder and a respiratory system. It is important to ensure face and eyes protection as well, since harmful substances are liable of being splashed in the direction of the face.

2.2.4 Injuries caused by lack of oxygen

The air has an oxygen content of 21%. Various gases that pass through the sewage system react with the oxygen and as a result lower its content in the air. When the oxygen concentration is lower that 17%, the normal functions of the human body are impaired. Under 15% there is a danger of paralysis and fast death. Amongst those gases the most common is the carbon dioxide that is created as a byproduct of the fermentation processes. Lack of oxygen appears sometimes in underground works.

Protective equipment: In any case of concern regarding the lack of oxygen, mask equipped with closed respiratory systems that provide oxygen must be used instead of air.

2.2.5 Injury as a result of the ignition of explosive gases

There is a concern work might be carried out in the presence of explosive gases such as methane. In those cases, especial care must be taken that sparks are not created, in particular while using electric devices in grinding, drilling and welding works.

2.2.6 Electrocution

Since the sewage system is wet, it is possible that the use of electric instruments might cause electrocution.

Protective equipment: insulation of the electric instruments against water.

2.2.7 Biological hazards

The sewage system is a fertile ground for animals such as snakes, rats and scorpions. As far as possible, attempts shall be made to locate and remove those pests from the grounds. If there is any concern as to their presence, the exposed body parts must be covered with thick clothes, as possible. Another biological hazard is the presence of bacteria in the sewage pits. It is possible to cope with the bacteria using adequate respiratory equipment, and showers on completion of the works. Most important are the periodical medical checks and the vaccination of the workers in any case of concern regarding a certain disease.

2.3 Rescue and care of workers injured in sewage works

General – During the course of the execution of sewage works the worker is usually at a depth of more than five meters. Special safety measures must be taken to ensure the well-being of the worker and to treat him if injured:

2.3.1 Means for the rescue and care of workers injured in sewage works

- ✓ **Autonomic respiratory system** – is needed as mentioned above the worker must be equipped with a respiratory system
- ✓ **Safety belt connected to a winch** – the worker must be tied by means of a safety belt to a manned winch that enables the fast rescue of the worker from the sewage system should he be in any danger.
- ✓ **Two workers for any worker inside the system** – it must be ensured that for each worker inside the sewage system there are two workers outside the sewage system. One of the workers is responsible for the winch and the other for the respiratory system of the worker. A rescue vehicle must be prepared in advance, available on standby for the rescue and evacuation of an injured worker.
- ✓ **Rescue vehicle on standby, equipped with first aid kit** – a first aid kit must be available near the opening through which the worker accessed the sewage system, in case first aid must be administrated to the worker.

2.3.2 In addition to the above requirements, there is a requirement for the skills level of the workers in the sewage system and their supervisors. The main requirements from those workers are:

- ✓ **Knowledge of the system and the execution of the work** – workers in the sewage system must know the system in which they work and be knowledgeable in the way the work is carried out in the sewage system
- ✓ **Knowledge of the hazards and their prevention measures** – the workers must know all the general hazards characteristic of the work in a sewage system. They must know as well the specific hazards characteristic of the work in their sewage system.

- ✓ **Knowledge in the use of the personal protection and respiratory equipment** – the workers must know how to operate the respiratory equipment.
- ✓ **Skills in the provision of first aid –** workers outside the system must be skillful in the provision of first aid to a worker that was injured during work in the sewage system, especially in resuscitation.
- ✓ **Periodical inspection of respiratory and artificial respiration equipment** – those workers must carry out a periodical inspection of the respiratory and artificial respiration equipment used in the work in the sewage system. See below the details of the periodical inspection.
- ✓ **Training of the workers that carry out works in the sewage system** – skilled workers must instruct the workers in the sewage system in relation with the hazards present and the ways to prevent them.

2.3.3 Medical checks for workers performing works in the sewage system

A worker that carries out works in the sewage system must undergo several medical checks on two occasions:

- ✓ Prior to his enrollment to the work – in order to identify workers that cannot perform sewage works due to personal health problems.
- ✓ During the course of the work, once every three months – in order to identify any health damages that might have developed in workers that performed works in the sewage system.

The medical checks will be run by an occupational medicine institute, in order to identify diseases such as jaundice and liver problems, tuberculosis and more. In addition to the checks, the workers in the sewage system must be vaccinated (tetanus, polio, flu, hepatitis and tuberculosis).

Chapter J – Safety and Hygiene in office work

1. General

1.1. Hazard factors in the office

The hazard factors may be divided into two main groups: hazard factors liable to cause work accidents and/ or occupational diseases and hygiene loads dependent on the work environment that may also contribute to accidents and/or occupational diseases.

1.2. Occupational disease (professional diseases)

An occupational disease is a disease that the worker contracted due to his work or occupation, while being exposed to harmful factors (chemical, physical, biological, etc.). An occupational disease is a result of repeated exposure to a harmful factor for a long period of time (chronic exposure). The Accidents and Occupational Diseases Ordinance (Notification), 1945 details the list of occupational diseases that must be reported to the Regional Labor Inspector.

2. Hazard factors

2.1. Slipping and falling

Slipping and falling occur when the worker loses his balance and the stability of his footstep. Slipping and falling may occur due to two main reasons:

2.2.1 The work environment

- **Floor with a low friction coefficient** – wet floor, marble surface, ceramics, etc.
- **Cables spread on the floor** – electric and communication cables used for the operation of various devices
- **Obstacles and blocked passages –** bumping into various objects present in the office space or in the passages such as: objects stacked or spread on the floor, doors that open in the direction of the passage, raised edges of carpets**,** etc.
- **Inadequate illumination (missing or dazzling) –** is liable of causing stumbling or falls.

2.2.2 Unsafe behavior of the worker

- **Careless walking** – walking without paying attention, recklessly, without looking at the way leads to stumbling, slipping and of course falling.
- **Carrying loads** – handling loads that affect the balance and/ or hide the way leads to many safety failures.
- **Bumping into obstacles** – bumping into open/ protruding drawers, open cabinet doors.
- **Climbing on chairs** – use of chairs as a means of climbing instead of adequate ladders.
- **Personal disabilities of the worker** – disabilities derived from the age of the worker, his health condition, etc. such

as poor sight, inadequate posture, lack of flexibility, etc.

2.2. Electricity hazards in the office environment

The modern office uses electrically powered equipment such as: computers, printers, screens, scanners, and additional electric equipment such as heating devices, ventilators, table lamps, electric kettles, etc. In addition to the equipment there are in the offices electric components and accessories such as: sockets, extension cables, electric cables. Devices that are not in good working order may constitute a potential hazard for lethal electrocution.

2.3. Fire hazards in the office environment

The offices occupy sometimes whole buildings and sometimes are only a part of an organization. The fire hazards they present may impact on the whole building. Fire hazards in the office and its environment may be the result of several main factors:

- Defective electric system and/ or improper use of electric equipment, for example: heating stoves, light fixtures and other devices.
- Combustible and flammable materials present in the office, for example: papers, the contents of filling cabinets, combustible waste concentration, drapes, carpets, paint thinners, etc.
- Open fire as a result of smoking, execution of works with open fire and also electric short circuit that creates sparks, etc.

2.4. Hazards in the operation of office equipment

2.4.1. The term “office equipment” includes simple items such as pencils, pens, clips etc. as well as complex equipment such as computers, printers, Xerox machines, etc.

2.4.2. Simple office equipment – to this type of equipment belong articles such as: staple devices, perforators**,** scissors, Japanese knifes, guillotines for cutting paper, etc. The main hazards involved in the use of this equipment are: pinching, crushing or cutting.

2.4.3. Electrically powered office equipment – most of the offices use today electrically powered equipment. In addition to the computerized systems, this type of equipment includes many types of electric devices such as: pencil sharpeners, perforators, equipment for automatic postage stamps applicators, slides projector, electric shredder, printers, Xerox machines, binding machines, lamination machines, etc. (see section 2.2 – electricity hazards in the office environment).

2.4.4. Office equipment for paper handling – offices use various types of equipment for handling paper (paper cutting guillotine, binding equipment, etc. Some devices are electrically activated, others manually. The equipment used for handling paper has handles and cranes used to tighten, cut, etc. and the workers endanger their fingers, when they use the equipment improperly.

2.4.5. Hazards in the operation of photocopy and copying equipment

- Exposure to ozone – electrostatic copying machines generate in the course of their work a small quantity of ozone gas (O_3 - unstable molecule of oxygen) that is

detrimental to health when inhaled.

- The tonner components – the tonner contains black carbon dust. This substance is liable of causing irritation of the upper respiratory system, especially due to the present of the additives it contains.
- Skin exposure to substances – contact with harmful materials and the concentration of harmful materials in the air are liable of causing skin irritation
- Noise – Many Xerox and copying machines generate noises in the course of their operation. In most of the cases the noise level does not cause hearing damages, but it may constitute a nuisance and cause functional disorders, nervousness and even stress.

2.5. Eating and drinking at work

Eating and drinking during working hours is an important issue. The food we eat directly impacts the way the workers perform their work, their awareness level and concentration. The issue is mostly related to the personal preferences of the individual. Most of the offices have small kitchens, refrigerators, and sometimes microwave ovens and device for filtered (hot and cold) water. In other places, machines for the preparation of hot drinks may be found, or kettles for boiling drinking water.

Most of the problems encountered concern issues related to the cleanliness and hygiene of the facilities.

In most of the places the cleaning work is carried out by contractors' workers, that are responsible for cleaning the offices at the end of the work day, but there are some weak points that may impact on the safety and health of the workers.

2.6. Work with computers

The computer is the most common and main type of equipment and work tool in the modern office. Most of the office workers use the computers as an intrinsic part of their current activities, often for many hours every day. This kind of work is liable of causing fatigue, lack of comfort and even pains.

The above mentioned problem is caused by a variety of reasons:

- Incorrect organization of the computerized workplace and personal inadequacy of its components
- Incorrect work arrangements and habits
- Lack of awareness to the unwanted situations from the part of the workers and the managers.
- Ergonomic factors:

  Overload of the vision system and watching conditions that are not optimal;

  Overload of the musculoskeletal system, including the back and the upper limbs

2.7. Hygiene loads

- Environmental temperature
- Lack of oxygen (CO2 surplus)

- Humidity
- Lack of air movement
- Harmful noise
- The location of the workstation and its adequacy to the worker
- Human factor

3. Behavioral rules for safe work

3.1. Precautionary rules to prevent stumbling and falling

- ✓ It must be ensured that the walking route is safe: keep walking surfaces and passages clear and remove any obstacles from them; refrain from blocking the passages with objects, stacks of items and various machines. Electric cables shall not be deployed on the floor. Do not leave open drawers and open closets doors. Do not leave rooms' doors open in the direction of the passages.
- ✓ Wear shoes with anti-slipping soles, especially in places where the surface may be wet or slippery.
- ✓ Any spillage of water, oil or other slippery impurity must be immediately cleaned. The floor must always be dry.
- ✓ To reach high places, that are too high for you, use a ladder. In any case refrain from using a chair for climbing. The chair is never a replacement for a ladder.
- ✓ The maintenance department must immediately be informed about broken tiles, raised carpet edges, loose carpet stitches, or any other safety hazard detected in the office and its environment.

3.2. Precautionary rules in handling and lifting objects

- ✓ Never perform handling or lifting activities from a sitting condition
- ✓ When carrying or transporting heavy equipment (usually above 20 - 25 kg) use the help of other people
- ✓ Preferably use dedicated devices for carrying and transporting, such as trolleys and mechanical lifting devices.
- ✓ The performance of handling and carrying activities from the floor or knee level to shelves, etc. must be minimized as much as possible

3.3. Hazards prevention in the use of cutting equipment

- ✓ It is recommended to act strictly according to the operation instructions of the manufacturer and his safety instructions.
- ✓ While using dangerous office equipment, concentrate on the execution of the tasks.
- ✓ Scissors will be used for cutting only.
- ✓ When using a Japanese knife hold the handle far from the blade. When cutting, do not use movements directed towards the body – position all the body parts outside the cutting line.
- ✓ Do not use defective or unsafe equipment.

3.4. Safety measures in the operation of photocopying and copying equipment

- ✓ The machine must be positioned in a well ventilated place to facilitate the removal of pollutants – dust, gases, etc. If the

equipment is located in a closed room, effective ventilation must be ensured.

- ✓ Leave a reasonable clearing around the machine to enable a good airflow and easy access to the equipment for maintenance.
- ✓ The work surface of the machine must be at a height comfortable for the operator.

3.5. Safety in electricity

- ✓ The main preventive measure concerning the use of electric equipment is its operation according to the operation instructions.
- ✓ Strictly maintain a dry machine environment. Refrain from handling electric equipment with wet hands.
- ✓ Any electric equipment connected to power sources must be in good working order. Equipment that causes overload or activates the ground fault circuit interrupters shall be disconnected and shall not be reconnected until checked/ repaired as required and approved for use by a certified electrician.
- ✓ Extension cords shall be used as little as possible, do not deploy cables in areas used for crossing; attach them to the wall to prevent the hazards of stumbling and falling
- ✓ The good working condition of the residual current device must be checked at a sensitivity of 0.03 A (30 milliamp) at fixed periods of time as required by law – once a month, at least.
- ✓ Periodical check of all the electric equipment according to the manufacturer's instructions. The check may be performed by workers. Visual check/ external check, without opening covers, etc. Prior to the performance of the check the electric equipment must be disconnected from the electricity network.
- ✓ **Workers training** – all the workers in the office must receive training, in the framework of the annual training (required by the regulations of the supervising organization), amongst others concerning the potential hazards of electricity and concerning the location of the main switch.

3.6. Fire prevention

- ✓ A safe distance must be kept between heat generating devices and flammable materials
- ✓ Flammable liquids must always be stored in well closed containers to prevent inadvertent spillage
- ✓ Do not throw cigarettes stubs and burning matches to the paper waste can (according to the law for the prevention of smoking at workplaces smoking is forbidden in offices!)
- ✓ In the smoking corner in buildings flammable materials must be removed from the place and the place must be equipped with ashtrays effective for extinguishing cigarettes stubs
- ✓ It must be ensured that the fire extinguishing equipment is available. It is the responsibility of the manager to ensure that the extinguishing equipment is periodically checked according to the regulations – visual check at least once a month and technical aspects check by a certified entity according to the frequency set

forth in the regulations.

3.7. Eating and drinking at work – workers safety and health

- ✓ In places where kitchenettes exist it must be strictly ensured that the kitchen floor is always dry – to prevent slipping and falling.
- ✓ The dishes cleaning pads must be replaced frequently in order to prevent the development of impurities. It must be strictly ensured that dedicated soap for dish washing and means for drying the hands and dishes are in place.
- ✓ The refrigerator must be cleaned thoroughly periodically. It is recommended that one of the workers be responsible for checking the contents of the refrigerator to prevent the accumulation of rotten food in time.

4. Symptoms of accumulated damage from computers

Fatigue and joints and back pain as a result of extended work hours – and incorrect – on the computer are sometimes accompanied by various symptoms such as the following symptoms:

- ✓ Swelling and pain in the joint and wrist
- ✓ Sensation of gentle pricking and burning in the fingers, or paranesthesia;
- ✓ Pains in the arms, shoulders, back of the neck and lower back
- ✓ Difficulty in performing simple tasks – writing, opening a door, turning the key in the lock
- ✓ Eye irritation, burning and redness and headaches – fatigue

4.1. The solution – ergonomics – human engineering

Ergonomics is a professional domain that researches the human behavior at his workplace and the man- machine relationship. The scope is to see the person as a part of the system and to create around it the proper physiological and psychological conditions for nurturing his good feeling, maintain his health and improve his efficiency. The intention is to combine the system components in such a way as to enable the person to work without stress, make as few mistakes as possible and not be found under a too heavy load. The system components include many factors such as machines, environmental conditions, the person's abilities, etc.

In the safety domain we are helped by ergonomics for a proper organization of the work environment in such a way that the probability of being injured and/ or to contact an occupational disease is very low.

4.2. Safety in the office

Proper adjustment of the chair

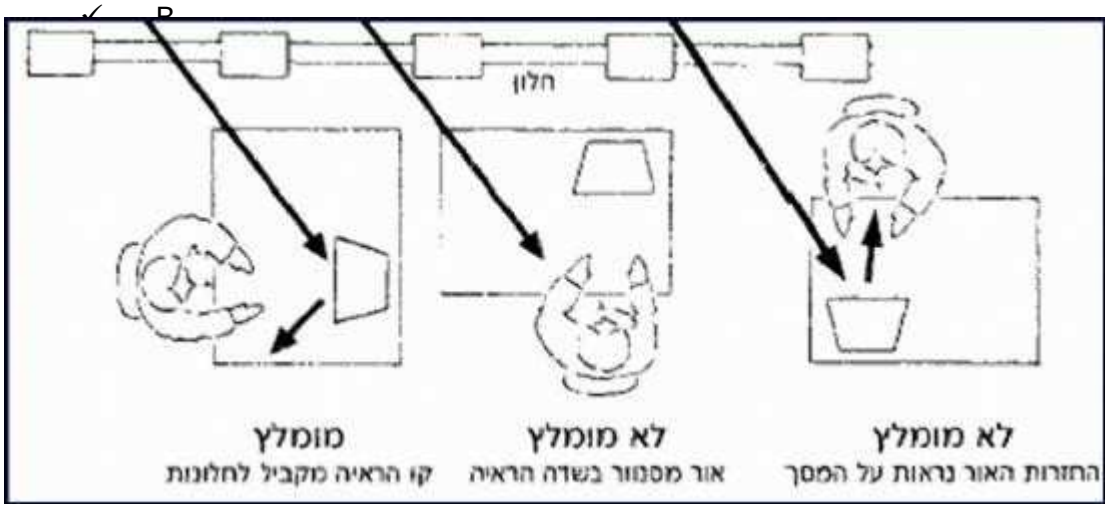
- ✓ Stand in front of the chair, adjust the height in such way that the highest point of the seat (in the horizontal position) is exactly under the knee.
- ✓ Sit on the chair and position the feet on the floor in a straight manner.
- ✓ Check that the distance between the front edge of the seat and the legs is as large as a closed fist (about 5 cm).
- ✓ Adjust the back rest (forward or backward as well as up and down)

so that it will fit the space in your lower back.

- ✓ Sit upright with your arms falling freely down. Bend the elbows at a right angle (90°) and adjust the height of the arm rest until it almost reaches the lower part of your elbow – if it is not possible to reach this height, or if the arm rests, in their lower position cause the elbows to rise, remove the arm rests.
- ✓ Now check if you can seat comfortably at the workstation with your legs crossed beneath.
- ✓ The back rest must be at an angle slightly greater than 90° in relation to the seat.

Correct organization of the work environment

- ✓ Lighting – suitable for the nature of the work, the bulbs types and the intensity of the light. It is important to seat in such a way that the light is not reflected form the computer screen.
- ✓ The computer screen – the eyes will look at the upper third of the screen – it is possible to raise it using a phone book or a paper package.
- ✓ The keyboard will be placed on the table in front of the screen and not on a lower shelf
- ✓ R



l be placed on the table – to prevent pressure on the wrists.

- ✓ The wrist will be in continuation of the forearm, without deviations to the side, up or down.
- ✓ If the feet do not reach the floor, use a foot-rest.
- ✓ You must sit on the whole seat, without sliding backwards or bend forward.
- ✓ It is recommended to place a supporting pillow for the lower back at the hollow of the back – a rolled towel.
- ✓ It is recommended: each half an hour to stand up for 2-3 minutes and stretch.

Window

Recommended	Not recommended	Not recommended
The line of sight is parallel to the window	blinding light in the field of vision	reflected light is seen on the screen

Ergonomic devices for correct work with the computer

- ✓ It is recommended that person whose occupation mostly involves working with a computer (typist, programmer…) uses ergonomic devices fitted to the palm. Those devices, with the addition of padded work surfaces, help in lowering the load on the wrist thus preventing occupational diseases.

Chapter K – Safety instructions for the work at passenger stations – station compounds/ passenger halls/ station platforms

1. **General**

1.1. This chapter refers to current maintenance works, severe failures, painting, cleaning, posting of publicity ads, etc. that are not defined as construction and engineering construction by law.

1.2. Communication of information concerning hazards

According to the regulations of the Organization of Work Control Regulations (provision of information and employee training), 5759 – 1999, the holder of a workplace that employs contractors for the above works, will communicate to the workers at their workplace updated information concerning the risks on site, and in particular concerning the risks present at the workstation where the worker is employed. He will also provide them with updated instruction for the safe use, operation and maintenance of the equipment, materials and work processes on site.

1.3. Workers training

1.3.1 The holder of a workplace that employs contractors for various works at the passenger stations, in the passenger halls and on the station platforms, will provide training with respect with the prevention of risks and the protection against them (hereinafter – the Training) using a safety warden on the behalf of Israel Railways, and will ensure that each and every worker had understood the risks and is knowledgeable enough in the training matters, according to its role and the risks he is exposed to. The holder of a workplace will repeat the above training as needed, at least once a year.

1.3.2 The holder of a workplace will take steps to ensure that the training provided to the workers was properly understood by them and that they work accordingly.

1.4. Training register

The contractor/ the company employed at the Israel Railways compounds will manage a training register with the following details:

a. The names of the workers
b. The times when the training was provided
c. Training type
d. Training subject matter
e. Name of the instructor
f. The qualifications and role of the instructor

Noe: the holder of a workplace will ensure the proper management of the training register.

1.5. Written information summary

1.5.1 A contractor employed at the Israel Railways compounds will

provide the worker, prior to the commencement of his work, a written summary of the information concerning the hazards related to the work he is involved in, or present at the workplace or at any other place where he is liable of being exposed to them as a result of the execution of his work.

1.5.2 The written summary as described in section 1.5.1 will be in the Hebrew and Arab languages and in additional languages understood by most of the workers at the workplace, as needed. The contractor will ensure that the contents of the said document are explained to the worker in a language he understands, if he is not fluent in the languages in which the summary was provided.

1.5.3 Should any change in the role or the workstation of the worker occur, the contractor at the workplace will provide him with a written summary as described in section 1.5.1 concerning the new role or work station.

1.6. Workers obligations

1.6.1 The worker is obliged:

a. To inform his manager/ shift manager/ station manager at the workplace of any hazard at the workplace that was detected by him during his work and was not previously known.

b. To attend all the training sessions to which he was invited by the manager at the workplace, or his representative, except if there was a reasonable reason to his absence.

c. The worker will sign a safety declaration – Chapter N in this Appendix.

1.6.2 The direct manager at the workplace will publish the worker's obligations as detailed in paragraph (a) on the wallboard at the workplace.

1.7. Personal protective equipment

1.7.1 According to the Safety at Work Regulations (Personal Protective Equipment), 5757 – 1997, the executor of the work is responsible for all his workers being equipped with personal protective equipment for the execution of their work.

1.7.2 All the workers at the Israel Railways compounds will wear a standard reflective vest.

1.7.3 It is the contractor's responsibility to ensure that all the equipment items used by his workers are in good working order.

1.7.4 The worker is responsible for using the equipment according to its designation, to maintain it in good working order and to replace it should any defect or damage be detected in it.

2. Work conditions and responsibility at the passenger stations and in the vicinity of the railway tracks

The work of the contractor at the passenger stations and in the vicinity of an active track requires the compliance of the contractor with the following requirements:

2.1 The contractor is responsible for the preparation of a safety plan and its submittal to the Railways Safety Warden, detailing the planned execution procedures and the corresponding risk assessment.

2.2 The Railways Safety Warden, after reviewing the material submitted, will issue the safety directives to be followed during the execution of the works, with emphasis on works with a risk component for the passengers such as: work with hot fire, cleaning of platforms using cleaning machines, work at heights, etc.

2.3 In order to remove any doubt, works involving high risks for the rolling stock or for the workers will not be carried out on an active track.

2.4 From that stated in section 2.3 and in accordance with the Safety Order 51831, it is derived, that high risk works will be executed after the taking over of a track sector/ station sector and under the supervision of the Railways Safety Warden.

2.5 Without contradicting all the above stated, and without this being construed as an authorization for the contractor to work on an active railway track, the contractor undertakes to take all the steps necessary to prevent the falling of pieces of equipment on, or in the vicinity of, the railway tracks.

2.6 The work is carried out under the constant supervision of a foreman that supervises the work and all the workers.

2.7 The contractor must warn his workers that they must take precautionary measures in the course of their work at passenger stations and in the vicinity of railway tracks. He is required as well to coordinate with and receive the approval of the station manager/ shift manager/ compound manager prior to commencing the work.

2.8 The contractor is required to continuously ensure the removal of hazards.

2.9 The contractor must coordinate maintenance/ cleaning works on the platforms according to the time tables of the trains (at times that are not a rush hour of passengers on the platforms).

2.10 The contractor must present, upon the request of the Railways Safety Warden documents that certify the good working order of the equipment items he uses (lifting platforms, ladders, safety harnesses, etc.).

2.11 Electricity works at the stations and on the platforms will be executed pending coordination with and the approval of the Electricity Warden at Israel Railways.

3. Behavioral rules and hazards for workers at passenger stations and in the vicinity of railway tracks

The contractor employed at the passenger's stations within the Israel Railways compounds must be conscious of the fact that not all his workers are aware of the hazards involved in work in the vicinity of railway tracks.

3.1 Getting off the platforms to the railway tracks from any reason whatsoever without the approval of an authorized entity is prohibited.

3.2 Do not approach the platform's edge and do not cross the yellow demarcation line. Approaching the platform's edge for the purpose of carrying out a work will be done under the supervision of the Railway Safety Warden.

3.3 It is prohibited to cross the platforms through the railway track.

3.4 Movement on the track is strictly prohibited.

3.5 Walking along the track requires the approval of the Railway Safety Warden/ shift manager/ supervisor on duty. Walking along the track is to be done only beyond the safety fence. In areas where there is no safety fence, the executor of the mission is to receive clear instructions concerning the permitted walking routes.

3.6 Walking in the vicinity of the track at day and at night will be carried out using personal protective equipment that includes full working clothes, a flashlight, a walkie-talkie, a reflective vest.

3.7 The working area of the contractor will be clearly demarcated and marked so as to prevent access and injury to the passengers.

3.8 It is prohibited to use the fire extinguishing equipment found on the platforms for the contractor's works.

Chapter L – Safety instructions for security works – in the train/ at the stations/ compounds and security inspectors

1. General

1.1. Providing information concerning risks

Pursuant to the regulations of the Organization of Work Control Regulations (provision of information and employee training), 5759 – 1999 the holder of a workplace that employs security guards and security screeners, including subcontractors for security works, will communicate to his workers at their workplace updated information concerning the risks on site, and in particular concerning the risks present at the workstation where the worker is employed. He will also provide him with updated instruction for the safe use, operation and maintenance of the equipment, materials and work processes on site.

1.2. Workers training

1.2.1 The holder of a workplace that employs security guards and security screeners at the passenger stations, in the railway garages and within the Railways compounds, will provide training with respect with the prevention of risks and the protection against them (hereinafter – the Training) using a safety warden on the behalf of Israel Railways, and will ensure that each and every worker had understood the risks and is knowledgeable enough in the training matters, according to his role and the risks he is exposed to. The holder of a workplace will repeat the above training as needed, at least once a year.

1.2.2 The holder of a workplace will take steps to ensure that the training provided to the workers was properly understood by them and that they work accordingly

1.3 Training register

The contractor/ the company that provides security services of any kind, including security screeners, security guards on the train, at the compounds and the passenger stations, will manage a training register with the following details:

1.3.1 The names of the workers that participated in the training

1.3.2 The times when the training was provided

1.3.3 Training type

1.3.4 Training subject matter

1.3.5 Name of the instructor

1.3.6 The qualifications and role of the instructor

Note: the holder of a workplace will ensure the proper management of the training register.

1.4 Written information summary

1.4.1 The contractor / company will provide the worker, prior to the commencement of his work, a written summary of the information concerning the hazards related to the work he is

involved in, or present at the workplace or at any other place where he is liable of being exposed to them as a result of the execution of his work.

1.4.2 The written summary as described in section 1.4.1 will be in the Hebrew and Arab languages and in additional languages understood by most of the workers at the workplace, as needed. The contractor will ensure that the contents of the said document are explained to the worker in a language he understands, if he is not fluent in the languages in which the summary was provided.

1.4.3 Should any change in the role or the workstation of the worker occur, the contractor/ company will provide him with a written summary as described in section 1.4.1 concerning the new role or work station.

1.5 Workers/ security guards obligations

1.5.1 The worker/ security guard is obliged:

a. To inform his manager/ shift manager/ station manager at the workplace of any hazard at the workplace that was detected by him during his work and was not previously known.

b. To attend all the training sessions to which he was invited by the manager at the workplace, or his representative, except if there was a reasonable reason to his absence.

c. The worker/ security guard will sign a safety declaration – Chapter N in this Appendix

1.5.2 The direct manager at the workplace will publish the worker's obligations as detailed in section 1.5.1 on the wallboard at the workplace.

2. Behavioral rules and hazards for workers in the vicinity of and on railway tracks

2.1. Crossing railway tracks or moving between cars

2.1.1. As a rule, no worker shall cross a track while moving over or under cars.

2.1.2. In the event that for the purpose of fulfilling his role a worker is required to cross a track between parked cars, he must take the following precautions:

a. Make sure that there is no movement of a car on the tracks he wishes to cross.

b. Crossing tracks where a car is parked will be done at a distance of at least 5 meters away from the edge of the car.

c. The worker will not cross the tracks between two rows of cars, unless the distance between them is at least 10 meters.

2.1.3. In the event that for the purpose of fulfilling his job an employee is required to cross the track above parked cars and he has no other way of cross the track, he shall do so in the following

manner:

a. In a passenger car – through the car entry doors.

b. In a freight car equipped with a balcony, he will go through the balcony.

c. In other cars, crossing is prohibited.

d. The employee received approval from the shift manager/ shunting supervisor.

e. Prior to the approval of the shift manager/ shunting supervisor to crossing the track over parked cars, he shall ensure that the crossing of the track is required for the execution of the work and there is no other safe way to cross the track. In addition he shall ensure that the line of cars is parked and there is no intention to move it until the end of the crossing.

2.2. Administrative crossing of an active track

2.2.1 Crossing a track for administrative purposes, not on a regulated passage, is not permitted.

2.2.2 Before crossing a railway line one must proceed with caution up to the approved crossing point which is located approximately 2.5 meters or more before the tracks.

2.2.3 Before crossing, one must stop, look to both directions, and only after ensuring no traffic is approaching on the tracks (movement of train cars of any kind) the tracks are to be crossed safely. If the direction of the car movement is not clear, do not cross.

2.2.4 If a moving car is identified, do not cross. Wait until the car has passed and only then safely cross the tracks.

2.2.5 Do not linger during the crossing of tracks – a minimum amount of time is to be spent on the track and its surrounding area, however do not run while crossing the tracks.

2.2.6 After completing the crossing move away from the track, vacate the track's surroundings and leave room for others to cross.

2.2.7 In places where there are more than one tracks, crossing is permitted only when all the tracks are observed and free of trains. In this situation, one must look to both directions once more between each rail.

2.2.8 When crossing a track, the person crossing the track must be focused on safety. Do not carry out any action which may distract or impair his field of vision – including:

a. Cellphones are not to be used (calls, messages, information).

b. Headphones in the ears may not be used when crossing.

c. Items of clothing hindering field of vision, such as a hat, coat, etc., should be removed.

2.2.9 The signposts in the crossing must be complied with.

2.2.10 Signaling measures on an administrative crossing must be obeyed as well as the signals they give. However, even if the signaling measures allow crossing, before the beginning of the crossing check there is no car movement on the track.

2.2.11 In the event you become “trapped” between two trains in motion, lay on the ground between the rails face down.

2.2.12 Wherever there is an overhead pedestrian bridge or underground pedestrian crossing, they must be used for crossing.

2.3. **Workers protection – the direct manager must act according to the Safety Order 51831 and according to the Railways Operating Instructions (Part C/ railway track and its works – workers protection**

3. Behavioral rules and safety instructions at passenger stations and on the platforms

3.1. Should you come across a hazard that endangers you or the passengers, such as: a broken platform, a sunken platform, broken stairs, doors and rails, etc. that are defective, report immediately to the supervisor or to the station master.

3.2. Getting off the platforms to the railway tracks from any reason whatsoever without the approval of an authorized entity is prohibited.

3.3. Do not approach the platform's edge and do not cross the yellow demarcation line. Approaching the platform's edge for the purpose of boarding or alighting from the train will be done after the train came to a complete stop and the doors opened.

3.4. You shall prevent as far as possible from the passengers to push their way to the train doors prior to a complete stop.

3.5. You shall prevent as far as possible the use of bicycles, rollerblades and similar on the platforms.

4. Safety instructions during the ride on passenger trains

4.1. The safety guards are responsible to ensure that the aisles are free from obstacles (bags, trolleys, etc.).

4.2. The passengers will always exit in the direction of the platform.

4.3. Should it be required to alight on a segment (between stations) it must be ensured that the passengers descended in the direction of the side where there are no additional tracks, and all this upon coordination with the inspector, the train driver and according to the instruction of the Railways Command.

5. Safety Instructions for preparation grounds, compounds and train garages

5.1. Movement on the railway track is absolutely prohibited.

5.2. Walking along the track requires the approval and briefing of a shift manager/ supervisor on duty. Walking along the track is to be done beyond the safety fence. In areas where there is no safety fence, the executor of the mission is to receive clear instructions concerning the permitted walking routes.

5.3. Walking in the vicinity of the track at day and at night will be carried out using personal protective equipment that includes full working clothes, a flashlight, a walkie-talkie, a reflective vest.

5.4. In cases of leakage of materials form containers, stores, pipeline explosions, dangerous materials are liable to be present. In this case isolate the area and immediately inform the manager on site.

Chapter M – Safety instructions for the work of the supervisors (observers) and the safety patrols at level crossings

1. General

1.1. Communication of information concerning hazards

According to the regulations of the Organization of Work Control Regulations (provision of information and employee training), 5759 – 1999 the holder of a workplace that employs level crossing supervisors and security patrols, will communicate to his workers at their workplace updated information concerning the risks on site, and in particular concerning the risks present at the workstation where the worker is employed. He will also provide him with updated instruction for the safe use, operation and maintenance of the equipment, materials and work processes on site.

1.2. Workers training

1.2.1 The holder of a workplace that employs that employs level crossing supervisors and security patrols, will provide training with respect with the prevention of risks and the protection against them (hereinafter – the Training) using a safety warden on the behalf of Israel Railways, and will ensure that each and every worker had understood the risks and is knowledgeable enough in the training matters, according to its role and the risks he is exposed to. The holder of a workplace will repeat the above training as needed, at least once a year.

1.2.2 The holder of a workplace will take steps to ensure that the training provided to the workers was properly understood by them and that they work accordingly.

1.3 Training register

The contractor/ the company employed at the Israel Railways compounds will manage a training register with the following details:

1.3.1 The names of the workers that participated in the training

1.3.2 The times when the training was provided

1.3.3 Training type

1.3.4 Training subject matter

1.3.5 Name of the instructor

1.3.6 The qualifications and role of the instructor

Note: the holder of a workplace will ensure the proper management of the training register.

1.4 Written information summary

1.4.1 The contractor/ company will provide level crossing supervisor and to the security patrol, prior to the commencement of their work, a written summary of the information concerning the hazards related to the work they are involved in, or present at the workplace or at any other place where they are liable of

being exposed to them as a result of the execution of their work.

1.4.2 The written summary as described in section 1.4.1 will be in the Hebrew and Arab languages and in additional languages understood by most of the workers at the workplace, as needed. The contractor will ensure that the contents of the said document are explained to the worker in a language he understands, if he is not fluent in the languages in which the summary was provided.

1.4.3 Should any change in the role or the workstation of the worker occur, the contractor / company will provide him with a written summary as described in section 1.4.1 concerning the new role or work station.

1.5 The obligations of the level crossing supervisors/ security patrols

1.5.1 The level crossing supervisor/ security patrol is obliged:

a. To inform his manager/ shift manager/ station manager at the workplace of any hazard at the workplace that was detected by him during his work and was not previously known.

b. To attend all the training sessions to which he was invited by the manager at the workplace, or his representative, except if there was a reasonable reason to his absence.

c. The level crossing supervisor/ security patrol will sign a safety declaration – Chapter N in this Appendix.

1.5.2 The direct manager at the workplace will publish the worker's obligations as detailed in section 1.5.1 on the wallboard at the workplace.

2. Behavioral rules and hazards for level crossing supervisors and security patrols employed in the vicinity of and on railway tracks

2.1 Crossing railway tracks or moving between cars

2.1.1 As a rule, no worker shall cross a track while moving over or under cars.

2.1.2 In the event that for the purpose of fulfilling his role a worker is required to cross a track between parked cars, he must take the following precautions:

a. Make sure that there is no movement of a car on the tracks he wishes to cross.

b. Crossing tracks where a car is parked will be done at a distance of at least 5 meters away from the edge of the car.

c. The worker will not cross the tracks between two rows of cars, unless the distance between them is at least 10 meters.

2.1.3 In the event that for the purpose of fulfilling his job an employee is required to cross the track above parked cars and he has no other way of cross the track, he shall do so in the following manner:

a. In a passenger car – through the car entry doors.

b. In a freight car equipped with a balcony, he will go through the balcony.

c. In other cars, crossing is prohibited.

d. The employee received approval from the shift manager/ shunting supervisor.

e. Prior to the approval of the shift manager/ shunting supervisor to crossing the track over parked cars, he shall ensure that the crossing of the track is required for the execution of the work and there is no other safe way to cross the track. In addition he shall ensure that the line of cars is parked and there is no intention to move it until the end of the crossing.

2.2 Administrative crossing of an active track

2.2.1 Crossing a track for administrative purposes, not on a regulated passage, is not permitted.

2.2.2 Before crossing a railway line one must proceed with caution up to the approved crossing point which is located approximately 2.5 meters or more before the tracks.

2.2.3 Before crossing, one must stop, look to both directions, and only after ensuring no traffic is approaching on the tracks (movement of train cars of any kind) the tracks are to be crossed safely. If the direction of the car movement is not clear, do not cross.

2.2.4 If a moving car is identified, do not cross. Wait until the car has passed and only then safely cross the tracks.

2.2.5 Do not linger during the crossing of tracks – a minimum amount of time is to be spent on the track and its surrounding area, however do not run while crossing the tracks.

2.2.6 After completing the crossing move away from the track, vacate the track's surroundings and leave room for others to cross.

2.2.7 In places where there are more than one tracks, crossing is permitted only when all the tracks are observed and free of trains. In this situation, one must look to both directions once more between each rail.

2.2.8 When crossing a track, the person crossing the track must be focused on safety. Do not carry out any action which may distract or impair his field of vision – including:

a. Cellphones are not to be used (calls, messages, information).

b. Headphones in the ears may not be used when crossing.

c. Items of clothing hindering field of vision, such as a hat, coat, etc., should be removed.

2.2.9 The signposts in the crossing must be complied with.

2.2.10 Signaling measures on an administrative crossing must be obeyed as well as the signals they give. However, even if the signaling measures allow crossing, before the beginning of the crossing check there is no car movement on the track.

2.2.11 In the event you become "trapped" between two trains in motion, lay on the ground between the rails face down.

2.2.12 Wherever there is an overhead pedestrian bridge or underground pedestrian crossing, they must be used for crossing.

2.2.13 Under no circumstances is the level crossing supervisor permitted to stand on the road/ way where there is vehicle traffic.

2.2.14 It is the responsibility of the level crossing supervisor to ensure that the access ways to the workstation are clear and free from obstacles.

2.2.15 Special instructions for the security patrols:

a. It is forbidden to stand on the road.

b. A vehicle driver approaching the level crossing must slow down in such a manner as to be able to stop in front of the track.

c. It is forbidden for a vehicle to cross the level crossing once the traffic lights and the bell were operated and until the barrier has risen completely and the bell has stopped ringing and the light has ceased to flash.

d. The vehicle driver must enter the level crossing when the window next to him is opened and radio is off.

e. It is prohibited to stand, stop, park a vehicle at a distance that is less than 20 meters from the closest railway track.

2.3 **Workers protection – the direct manager must act according to the Safety Order 51831 and according to the Railways Operating Instructions (Part C/ railway track and its works – workers protection**

3. Personal protective equipment

3.1. Uniform work clothes

3.2. Working boots

3.3. Wind coat/ raincoat

3.4. Reflective vest

Chapter N – Contractor/ Worker Safety Declaration

1. Contractor's Safety Declaration

1.1. I, the undersigned, employed/ employing workers in _____ works at the Israel Railways Ltd. compounds, hereby declare that I have been informed of the safety and hygiene regulations prevailing at the Israel Railways Ltd. and am aware, as are my employees, of the possible hazards within the Railways compounds.

1.2. I hereby undertake to ensure that I and/or my employees shall adhere to the safety and hygiene requirements as specified by law, and to labor and discipline regulations and to act according to the instructions of the General Manager of Israel Railways Ltd., or anyone authorized by him.

1.3. I the representative of the executing contractor/company _____, hereby declare that I have provided all my employees with the safety and hygiene guidelines of Israel Railways Ltd.

Date: _____

Contractor's name: _____

ID no.: _____

Contractor's address: _____

Contractor's phone: _____

Contractor's signature and stamp: _____

2. Worker's safety Declaration

2.1 I, the undersigned, employed by the _____ company, hereby declare that I have been informed of the safety and hygiene regulations related to my work and prevailing at the Israel Railways Ltd.

2.2 I undertake to scrupulously fulfill the safety and hygiene requirements as specified by law, as well as the labor and discipline regulations that apply to employees of Israel Railways, and to act according to the instructions of the General Manager of Israel Railways Ltd. or whoever is appointed by him.

Date: _____

Employee's name: _____

ID no.: _____

Employee's address: _____

Employee's phone: _____

Employee's signature: _____

Chapter O – Penalties Scales for Safety Offences of Contractors within the Compounds of the Israel Railways

1. The penalties detailed below will be collected from the contractor for every failure to execute or defective execution and/or deviation from any obligatory directive as per the directives of this safety appendix, including any obligatory directive / regulation.
2. Each penalty specified in the table is for every day or part thereof commencing from the date of the deviation and up to the cancellation of the deviation by the contractor and for every deviation and every site separately.
3. All the above amounts are in New Israeli Shekels, excluding V. A. T. and are updated to April, 2011. These amounts will be updated from time to time by the Railways.
4. Nothing in the provisions of this chapter shall detract from any other directive in the Safety Appendix, or detract or reduce any of the powers of the Engineer, his representatives, the Inspector or the Safety Warden.
5. Penalties for the failure to use personal protective equipment will be imposed for each individual case.

Severity level / Characteristics of the offence	1	2	3	4
	Regular safety risk	**Severely dangerous (can cause an accident)**	**Very dangerous (high probability for causing an accident to a worker) damage/ accident is liable to be caused to railway vehicles, train passengers are liable to be injured**	**Very dangerous requiring the immediate suspension of work**
Lack/ failure to use personal protective equipment, such as:	• Failure to use plugs/ ear protection in a noisy environment • Failure to use safety boots • Failure to use reflective clothing • Failure to use protective helmet • Any personal protective equipment required for the execution of the work • Disobeying instructions and negligence in the execution of work	• Recurring personal safety offences • The foreman repeatedly disregards the safety instructions • Recurring offence	• Risk of severe accident due to failure to use personal protective equipment of any kind • Recurring offence	• Instances where the execution of the work will be suspended, due to serious safety deficiencies as detailed in this safety appendix, amongst others, in Chapter B, section 6.
	Penalty: 300 NIS	**Penalty: 600 NIS**	**Penalty: 1500 NIS**	

Severity level / Characteristics of the offence	1 Regular safety risk	2 Severely dangerous (can cause an accident)	3 Very dangerous (high probability for causing an accident to a worker) damage/ accident is liable to be caused to railway vehicles, train passengers are liable to be injured	4 Very dangerous requiring the immediate suspension of work
Defects in safety measures at a work site and ancillary equipment, such as:	• Lack of hand rails • Lack of safety signs • Dangerous use of tools • Failure to employ strictness in respect of electrical equipment and its operation	• Defects in scaffolding, or in work surfaces • Failure to take precautionary measures to prevent the fall of workers /equipment from heights • Failure to take precautionary measures during the excavation of the tunnels / ditches • Recurring offence	• Recurring offences at the same site or other sites of the same company • Failure to implement previous safety directives. • Actions that endanger other workers at the site (throwing / dropping of material; from heights).	
	Penalty: 450 NIS	**Penalty: 900 NIS**	**Penalty: 1500 NIS**	
Failures in the operation of heavy mechanical machinery within the Railways compounds	• Operation of equipment that is not in good working order • Failure to brief on safety procedures for heavy machinery operators • Replacement of workers without safety training • Failure to place traffic signs • Disobeying traffic signs	• Operation of equipment that is not in good working order in tunnels • Operation of close engineering equipment units without coordination • Operation of equipment in the vicinity of the railway track without the presence of Railway Track Observer / Railway Track Inspector • Failure to use group equipment/ safety measures /accessories (fence /signboards) • Recurring offence	• Recurring offences • Unauthorized crossing of active railway tracks with a vehicle • Entry of heavy mechanical equipment to a clearance (gabarit) without the presence of a supervisor	
	Penalty: 900 NIS	**Penalty: 1500 NIS**	**Penalty: 3750 NIS**	
Failure to implement	• Laying equipment in the vicinity of a	• Recurring safety offences	• Recurring safety Offences	

Severity level / Characteristics of the offence	1 Regular safety risk	2 Severely dangerous (can cause an accident)	3 Very dangerous (high probability for causing an accident to a worker) damage/ accident is liable to be caused to railway vehicles, train passengers are liable to be injured	4 Very dangerous requiring the immediate suspension of work
safety appendix/ Railways instructions and/or safety regulations	track • Failure to post signs of dividing fences • Failure to put up a dividing fence	• Failure to comply with the directives of the safety appendix. • Commencement of work prior to receiving safety training. • Failure to prepare the area as required by the safety appendix. • Recurring offence	• Failure to implement one of the directives of the safety appendix. • Work without a Railways Supervisor / Railway Track Observer • Failure to place dividing fences or their placement not in accordance with the directives. • Crossing of active railway tracks by workers.	
	Penalty: 900 NIS	**Penalty: 1500 NIS**	**Penalty: 3750 NIS**	
Unsafe conduct	• Employing workers without safety training • Failure to comply with the instructions of the manager/ inspector/ warden • Creating environmental pollution	• Failure to implement safety instructions from previous tours • Wide-spread environmental pollution • Failure to provide correct details to the manager/ inspector/ warden • Recurring offence	• Refusal to identify before a manager/ inspector/ warden • Physical and verbal abuse • Unruly and inappropriate conduct • Severe damage to the environment (heavy environmental pollution)	**The amount of the penalties for each offence of a severity scale of 4 may reach a ceiling of NIS 7,000, at the discretion of the Safety Warden acting on behalf of the Railways regarding the works (under a contractor's contract, a supervision company or a representative of the engineer).** **The above is in addition to the immediate suspension of the work**
	Penalty: 1500 NIS	**Penalty: 3000 NIS**	**Penalty: 6000 NIS**	

Chapter P – Safety Order 51831

State of Israel
Ministry of Economy and Industry

January 31st 2016
Document number: 537182

Registered with delivery confirmation

To
Mr. Boaz Zafrir
CEO
Israel Railways Ltd.
Al Parashat Drachim P. O. Box 18085, Tel Aviv 6118002

Fax: 03-6937480
(Sent via: post, fax)

Dear Sir,

Organization of Work Control Law 5714-1954

Safety Order 51831

By virtue of the power vested in me, and in accordance with section 6 (a) of the Organization of Work Control Law, 5714 – 1954, I hereby:

a. Forbid execution of construction, infrastructure and **other** works in the proximity of an active railway track, at a distance of less than 5 meters, from the railway track center, as long as:
   1. The work is not carried out under the constant supervision of a foreman/ team leader, who supervises the work and on-site employees.
   2. The on-site employees have not been instructed.
   3. A dividing fence separating the work site from any active rail track has not been erected, so as to prevent any employee and/or equipment and/or machinery from getting close to an active rail track and trains passing thereon.
   4. Warning signs prohibiting crossing toward the active railway track have not been posted upon the fence.
   5. There is no **constant supervision and constant warning**, throughout all working hours, by employee/s, acting as supervisor/s and who have been suitably instructed.
   6. The works have not been reported to the safety supervisor.

b. Section a of this safety order does not apply to construction and/or

infrastructure works which must be carried out on active railway tracks, or in proximity thereto and where there is no possibility of separating the work site from the active railway track (by a dividing fence). Such works will be carried out under the following conditions:

1. Constant supervision and warning are maintained, throughout all working hours, by employee/s acting as supervisor/s, who have been duly instructed, and said instruction has been documented in the training register, in accordance with the Organization of Work Control Regulations (provision of information and employee training), 5759 – 1999.
2. None of the abovementioned work shall be carried out without supervisor/s.
3. The employees have been trained by the foreman/ team leader, worksite supervisor and said training has been documented in the training register, in accordance with the Organization of Work Control Regulations (provision of information and employee training), 5759 – 1999.

c. Section a of this safety order does not apply to **other** works, which are not construction and/or infrastructure works, which must be carried out on active railway tracks, or in proximity thereto. These other works will be carried out subject to the constant supervision and warning, throughout the entire work, by employee/s acting as supervisor/s **and will be carried out subject to a risk analysis and in accordance with the requirements of the** Labor Inspection Organization Regulations (Safety Management Program) – 2013 for the execution of the dedicated works, while taking suitable precautions that shall ensure the safety and health of the workers engaged in the work.

d. This safety order is effective as of the date of its publication.

This safety order replaces safety order number 3530 dated October 9th 2003.

Your registration number with us is 82958. Please make reference to this number in every inquiry made with us.

Sincerely,

Engineer Boris Kaykov

Deputy Regional Work Supervisor in the field of construction

Mobile: 050-6240590

Fax: 02-6662010

Boris.Kaykov@economy.gov.il

Your registration number with us is 82958. Please make reference to this number in your letters to us.

Your notification on the execution of the order's requirements is to be sent on the form enclosed with this order.

Please note! In the event you have any objections to the above, you are welcome to present your arguments in writing or ask for a second review of the supervisor's decision in the order in the event that new facts have emerged or circumstances have changed and this may change the supervisor's decision in respect of the order.

Any request shall be made in writing, detailing the justifications to the Regional Work

Supervisor within seven days from the issue of the order.

Filing a request will not result in the suspension of the order. The order shall remain in effect as long as there is no other decision in the matter.

Attachments:

Paragraphs of the Organization of Work Control Law, 5714 – 1954

Copies:

Chief Labor Inspector, Jerusalem

Varda Edwards, Chief Work Supervisor, Head of the Occupational Safety and Health Administration

Zeev Divsek, Senior Safety at Work Field Manager

Shmuel Hefetz, Regional Work Supervisor

Chapter Q – Form for the execution of safety inspections on the Israel Railways sites (construction and engineering construction projects)

1. **General**

Appendix A to this chapter constitutes a compulsory instruction for the execution of the safety inspections/ visits of the workers employed at works in the vicinity of railway tracks.

2. **Scope**

2.1. Setting forth the matters that must be checked at any time works are carried out in the vicinity of railway tracks.

2.2. Setting forth the control mechanism for safety deficiencies, preventive actions/ removal of obstacles, prior to the commencement of the works, during the course of the works and on their completion.

3. **Applicable documents**

3.1. Safety at Work Ordinance (new version), 5730 – 1970, pursuant to all the relevant regulations under this ordinance and any law.

3.2. Organization of Work Control Law, 5714 – 1954, and the regulations promulgated thereunder.

3.3. Instructions for the operation of Israel Railways

3.4. Safety Order 51831 – the Ministry of the Economy and Industry – the Safety and Health Administration.

3.5. Safety Appendix of the Israel Railways for contractors work.

3.6. The updated safety plan and risk review submitted by the executor of the work.

4. **The method**

4.1. Control and monitoring of the implementation of the safety requirements at the worksites and enforcement of the safety instructions on the workers employed in the vicinity of the railway tracks will be carried out through tours /unannounced visits.

4.2. The inspection/ tour will be carried out by the Safety Warden on the behalf of the executing contractor and by the Safety Warden on the behalf of management/ supervision company.

4.3. The inspection/ tour will be carried out according to Appendix A in this chapter.

4.4. Please pay attention that in the Appendix are listed matters that must be inspected in general. Inspection matters relevant to the work phases carried out in the vicinity of the railway track must be added.

4.5. Should any deficiency be detected, the inspector will give instructions as to the correction of the deficiencies/ removal of the obstacles and will report to his direct manager/ employer.

4.6. Should any life threatening deficiencies / deficiencies dangerous to the movement of the railway vehicles be detected, he will immediately

proceed to suspend the works and/or the hazard and will report to his direct manager/ employer.

4.7. Tours/ unannounced visits will be carried out on the various worksites by the following persons:

4.7.1. The Safety at Work Warden on behalf of the executor of the work, at least once a week, for any task and any time a significant change in the contents of the execution occurred, replacement of workers, new execution methods.

4.7.2. The Safety at Work Warden on behalf of management/ supervision company, at least once a week, according to the method mentioned in section 4.7.1.

4.7.3. Wing managers/ line managers, from time to time at their discretion.

5. **The Railways Safety Warden has the authority, upon consultation with the manager of the Safety Supervision Department at Israel Railways, to order the enhancement of the frequency of the tours/ inspections at the worksites**.

Appendix A

Company logo

To/ project manager

(Date)

Re: **Work Safety Inspection Report – Israel Railways Sites**

Site name: Railway km: Inspection date:
Name of the executing contractor: Name of the foreman:
Name of the Safety Warden (on behalf of the executor):

The role of the participant in the visit	Name	Comments/ certification
Example: foreman	Israel Israeli	

Defects from previous visit dated – (example)

No.	The nature of the deficiency and its location	Instructions given for the rectification of the deficiency	Status	Comments
1	An employee training register was not found at the site	An employee training register must be kept at the site	Improper	To be corrected immediately

Subjects that require inspection: (example)

No	The matter to be inspected	Correct		Comments	Date for completion of execution	In charge of the execution
		Yes	No			
1	Correct signposting on site (including warning sign posts). The name of the executor of the construction, the name of the foreman, the nature of the work being executed.					
2	Management of and recording into the general book. Accidents, occupational diseases, memorandums, various certificates, updated safety plan and risk review, emergency scenarios, notification of construction activities – appointment of a foreman.					
3	Workers training – new workers, new technology, training after a safety event, improvement of work processes. Documentation and workers inquiry inspection.		√	Recurring comment regarding the absence of a workers training register at the site.	For immediate correction + imposing a fine	Foreman
4	Dividing fence from active tracks including adequate sign posts.					
5	General safety planning of the construction site, as needed. Safety preparations of the site – marking of measures (fire extinguishing, etc.).					
6	Are works in the vicinity of the railway tracks being carried out according to the Railway safety appendix?					

No	The matter to be inspected	Correct		Comments	Date for completion of execution	In charge of the execution
		Yes	No			
7	**Clothing and shoes** Proper work clothes, correct work boots					
8	**Personal protective equipment**: Reflective overalls, ear plugs, protective hat.					
9	Covering of open pits in the vicinity of active rails.					
10	Receiving written approval for excavations in the vicinity of railway tracks under the authority of the Electricity and Communication Department.					
11	Installation of adequate illumination for the execution of works at dark.					
12	**Scaffolds in the vicinity of railway tracks** Foundations, stability, anchoring to a building, correctness, inspection of the checking documentation of the foreman.					
13	**Cranes, hoisting machinery** – Is work in the vicinity of railway tracks been carried out according to the instructions of the Safety Warden (taking over a segment, track supervisor, presence of the contractor's safety warden, etc.)?					
14	Is a certified railway track observer on the behalf of the contractor present during the work in the vicinity of railway tracks, as per the instructions?					

No	The matter to be inspected	Correct		Comments	Date for completion of execution	In charge of the execution
		Yes	No			
15	Does the foreman have available communication means for emergency situations/ accidents?					
16	Presence of the foreman on the worksite.					

Continuation of defects from the current visit:

No.	The nature of the deficiency and its location	Instructions for execution	Execution date	In charge of execution

Comments:

_____

_____

_____

_____

_____

Name of the Safety Warden/ report writer