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Line With Supply Of Electromechanical Systems

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1.0 SCOPE

The purpose of the Occupational, Health, Safety and Environmental Management Plan (OHSYP) document is as follows:

- To determine the applicable legislation and standards related to this plan;
- to define duties and responsibilities;
- To determine mitigation measures for the management of health and safety topics,
- To define monitoring and reporting procedures,

Together with the procedures listed in the “Related Documents” section, this Occupational, Health, Safety and Environmental Management Plan (OHS) is an integral document prepared for the REC MAOG Project and is valid for all kinds of preparatory works, transportation works, construction works, tests and commissioning phases.

The Occupational, Health, Safety and Environmental Management Plan (OHSYP) defines the tools and methods of HSE management during the project, as well as the general construction HSE rules to which the project personnel will be bound. Engineers, Suppliers and Construction RECs will be responsible for the management of Health, Safety and Environment aspects throughout the REC MAOG Project.

The REC ensures that the Occupational, Health, Safety and Environmental Management Plan (OHSYP) will be fully complied with throughout the MAOG Project. REC MAOG Project officials have the right to conduct periodic and random inspections when necessary. In case of non-compliance with the rules during these inspections, REC MAOG Project officials have the right to issue a "Work Cessation Order". The work will not be restarted until corrective measures are taken and the risks are eliminated or duly brought under control.

The scope of this document includes Project HSE Procedures and Plans to be published later.

The REC MAOG Project covers the following types of activities:

- Transportation of personnel, construction machinery, equipment and materials, project materials and waste soil and materials to and from the construction site.
- Excavation, filling and soil improvement works (bored piles, etc.)
- Pipe laying and steel cutting and joining, welding and sewing.
- Concrete manufacturing (production, casting)
- Equipment lifting operations.
- Working at Height
- Testing and commissioning activities.
- Rough-fine productions
- Mechanical and electrical manufacturing
- Roof work
- Infrastructure activities
- Quarrying and blasting
- Working on the side of the line (TCDD Railway, near the catenary, at level)
- Heavy equipment and material transportation



- Mounting Works
- Precast, sleepers manufacturing
- Drilling works
- Scaffolding erection/dismantling

This Occupational, Health, Safety and Environmental Management Plan (OHSYP) and any related plans and procedures will be communicated to all persons in charge of the construction site (reception documents of all subREC managers will be required).

All plans and procedures related to the Occupational, Health, Safety and Environmental Management Plan (OHS) will be accessible to everyone on site, including subRECs, as a reference document, with all parties having a copy of this document.

For any hazard/risk not covered in this document, REC MAOG Project officials and relevant subREC officials will develop a special Project HSE Procedure, also valid for subRECs, before starting any activity.

2.0 LEGISLATION AND STANDARDS

The REC MAOG Project will comply with all applicable legislation and standards, industrial safety standards and good practices in Turkey.

The overall project will seek excellence in health, safety and environmental issues. The success of the project will be evaluated according to its health, safety and environmental performance. This has the potential to bring cost savings and make health and safety an integral and successful part of the business.

During the execution of the project, maximum attention will be paid to health and safety and a continuous pre-active health, safety and environmental culture will lead to achieve this goal.

In order to achieve the desired excellence in safety performance, the REC MAOG Project will implement programs that require the participation of managers, administrators and the entire workforce where necessary.

3.0 ABBREVIATIONS & DESCRIPTIONS

ATEX	:Explosive Environments
COSHH	: Control of Substances Harmful to Health
GFCI	:Ground Fault Circuit Switch
HAZMAT	: Hazardous Materials
PTW	:Permit-To-Work
RCD	:Residual Current Device
RPE	:Respiratory Protective Equipment
SWL	:Safe Work Load
HSE	: Occupational Health, Safety and Environment
REC	:Rec Uluslararası İnşaat Yatırım Sanayi ve Tic. A.Ş.
EIA	:Environmental Impact Assessment



LTI	:Lost Time Incident
LOTO	:Locking and Tagging
MAOG	:Mersin-Adana-Osmaniye-Gaziantep High Standard Railway Line Construction and Supply of Electromechanical Systems
IFC	:International Finance Corporation
PPP	:Public-Private Partnerships
TCDD	Republic of Turkey State Railways General Directorate

Catenary Line: It is an overhead line system that provides power distribution to electric vehicles (locomotive, set, unit, train, etc.) via a pantograph.

HSE : Systematic and scientific studies carried out in order to be protected from conditions that may harm health arising from various reasons in the workplace and during the execution of the work; It is a series of measures that must be taken to ensure that employees work in a healthy and safe manner. HSE aims to maximize employee health, physically, mentally and socially.

Ministry: The Ministry of Labor and Social Security

General Directorate: General Directorate of HSE

Employer: Natural or legal persons or unincorporated institutions and organizations that employ employees

Employer Representative: In workplaces, the person acting on behalf of the employer and taking part in the management of the work and the whole workplace,

Occupational Safety Specialist: Engineer, architect or technical staff with occupational safety expertise certificate, authorized by the Ministry to work in the field of HSE , assigned pursuant to the HSE contract signed between MAOG REC or Sub-RECs and the JHSU from which service is received,

Workplace Physician: Physician, who is authorized by the Ministry to work in the field of HSE , who is assigned pursuant to the HSE contract signed between the RECs and the JHSU from which the service is received,

Other Health Staff: Persons who have a nurse, health officer, emergency medical technician and environmental health technician diploma certified by the Ministry to be assigned in the HSE services, assigned pursuant to the HSE contract signed between the RECs and the JHSU from which the service is received, and persons who have the workplace nursing certificate given by the Ministry,

HSE Board:The community formed by the relevant article of the Regulation on HSE Committees, in order to work on employer, HSE in workplaces with 50 or more employees and where continuous work is carried out for more than six months,

Workplace Hazard Class:In terms of HSE , the hazard group determined for the workplace,



taking into account the characteristics of the work, the materials used or emerging at every stage of the work, work equipment, production methods and forms, working environment and conditions,

Workplace Registration Number: A registration number containing the "Quality Code", "Work Line Code", "New / Old Unit Code", "Workplace Sequence Number", "Province Code", "District Code", "Control Number" and if any "Number of Employer With Whom Temporary Business Relationship is Established" "Employer Number" and "Sub-Employer Number" by SSI to the workplace where the insured is employed.

Support Staff: In addition to his primary duty, a person who has the appropriate equipment and adequate training, who has been specially appointed for prevention, protection, evacuation, fire fighting, first aid and similar issues related to HSE ,

Employee Representative: Employees authorized to participate in work related to HSE , to monitor the work, to request measures, to make proposals and to represent the employees,

Occupational Disease: Disease resulting from exposure to occupational risks,

Occupational Accident: The incident that occurs in the workplace or due to the conduct of the work, causing death or injuring the body integrity mentally or physically,

Prevention: All the measures planned or taken in order to eliminate or reduce HSE risks at all stages of work undertaken at the workplace,

Hazard: It means the potential of damaging or harming which exists at the workplace or caused by an outside factor and which may affect the employees or the workplace,

Risk: Means probability of loss, injury or other harmful result arising from hazard,

Risk assessment: It means the works required to be performed in order to identify the internal and external hazards, analyse and grade the factors which turn such hazards into risks and the risks arising from such hazards, and determine control measures,

Tolerable/Acceptable Risk: The level of risk that will not cause loss or injury, in accordance with legal obligations and the workplace's prevention policy,

Near Miss: An event in the workplace that does not damage employee, workplace or work equipment in the workplace, although it has a potential to damage,

Approved Ledger: A single ledger for each workplace, with serial number and pages arranged in one original and two copies, in which the determinations and recommendations made by the workplace doctor and the occupational safety specialist and other matters deemed necessary are written,

MSDS: In order to protect human health and the environment from the negative effects of harmful substances and mixtures, the document containing detailed information on the properties of harmful substances and mixtures and the safety measures to be taken in workplaces according to their hazard characteristics,



İSG-Katip: HSE recording, follow-up and monitoring program used by the General Directorate for the purpose of recording, tracking and monitoring of works and transactions related to HSE services,

JHSU: Public institutions and organizations and private legal entities, which are established outside the workplace to provide HSE services to one or more workplaces, have the necessary equipment and personnel and are authorized by the General Directorate,

Contract: The contract on HSE services between MAOG REC or Sub-RECs and the JHSU from which service is received,

Annual Working Plan: The plan that includes the studies to be carried out within one year on the monitoring of the working environment, including all kinds of protective, preventive and corrective actions to be carried out against the HSE risks in the workplace,

Annual Training Plan: The plan containing the trainings to be held for one year, taking into account the hazard class of the workplace and the minimum periods specified in the Regulation on the Procedures and Principles of HSE Training of Employees,

Annual Evaluation Report: The report of the HSE studies carried out within a year, in accordance with the HSE Services Regulation (Annex 6),

Safety and Health Signs: Signs that give information or instructions about HSE or warn against dangers through a sign, color, sound or light signal, verbal communication or hand-arm sign indicating a special object, activity or situation,

Prohibition Sign: A sign that prohibits a behavior that will cause or expose to danger,

Warning Sign: A sign that warns of a source of danger or danger,

Commanding Sign: The sign that determines a behavior that must be complied with,

Emergency Exit and First Aid Signs: Signs giving information about emergency exit routes, first aid or rescue

Information Sign: Signs giving information other than prohibition sign, warning sign, commanding sign, emergency exit and first aid signs,

Work Equipment: Any machine, tool and plant and installation used in the execution of the work,

Use of Work Equipment: All kinds of activities related to work equipment such as starting, stopping, using, moving, repairing, modifying, maintaining, putting into service and cleaning work equipment,

Personal Protective Equipment (PPE): It's all the tools, devices and equipment designed for this purpose, which protect the employee from one or more risks which may arise from the works carried out, which adversely affect health and safety and which are worn or held by the employee.



The CE conformity Marking: The mark showing that the manufacturer fulfills all its obligations arising from the relevant technical regulation/regulations and that the product has been subjected to all relevant conformity assessment procedures,

First aid: In an accident or life-threatening situation, drug-free applications with existing tools and equipment at the scene, without seeking medical tools and equipment, in order to save life or prevent the situation from getting worse until the help of health officials is provided,

First Aider: In line with the purpose specified in the definition of first aid, a person who has received a First Aid Certificate by taking first aid training, who performs drug-free applications with the available tools and equipment, without seeking medical equipment,

First Aid Training: Training given by first aid trainers with curricula approved by the Ministry of Health,

Emergency Situation: Any event that requires emergency response, intervention, first aid or evacuation arising from fire, explosion, spread caused by dangerous chemical substances, natural disasters, which may occur in all or part of the workplace,

Emergency Team: The team that provides the evacuation of the occupants of the building in case of fire, earthquake and similar disasters, makes the first response to the incident, participates in the extinguishing, rescue, protection, first aid works,

Emergency Plans: Plans that should be prepared before the emergency, showing how and by whom the intervention, protection, search-rescue and first aid issues will be made in cases requiring an emergency,

Emergency Assembly Area: The area where employees evacuated from the building can safely wait outside the building,

Emergency Map: On the sketch showing the workplace or the sections of the workplace, the places where emergency equipment, including those to be used for fire extinguishing, are located, first aid materials, escape routes, fire stairs, emergency elevators, assembly places, warning systems, employees assigned to the emergency team and their spares. It refers to the project in which the name, surname, title, area of responsibility and contact information, contact numbers of organizations outside the workplace on first aid, emergency response, rescue and fire fighting are written and marked.

Incident: An undesirable occurrence in which even a slight change in conditions can cause injury to a person and/or property damage and adversely affect the completion of the task.

Accident: Undesirable and unexpected event resulting in damage to the person and/or property/equipment and the environment during a work-related work at the workplace and during business hours



Occupational Accident: While the employee is at the workplace; in times spent without performing his/her main job due to being sent to another place outside the workplace as an official; An event that occurs while traveling to and from the place of work with a vehicle provided by the employer, causing death or disrupting bodily integrity, and rendering mentally or physically disabled immediately or later.

Injury: A business-related and instantaneous situation or event. Injuries can be minor enough to be resolved with first aid or serious enough to result in death.

Fatal Accident (FAT): A recordable event resulting in death as a result of a work-related injury or illness, regardless of the time of response between the event and death.

Lost Time Incident (LTI): Accidents in which the injured employee as a result of a work accident is unable to perform the job he is normally assigned to and cannot return to work on the working day (the next day) following the day of the accident. Failure to return to work or rest on the day of the accident is NOT counted as a lost day.

Lost Work Days (LWD): The number of lost days due to accidents with lost work days (The day of the accident should not be counted as Lost Work Day.)

Restricted Work Case (RWC): If the injured employee as a result of a work accident occurs, if he or she is unable to perform the job he is normally assigned to, but is assigned to a slightly different job on the business day following the day of the accident, and is able to do that job, the employee must return to his main duty at the end of 15 calendar days at the latest. (In case of injuries exceeding 15 days, the incident is upgraded to the Lost Day Accident Class.)

Restricted Work Days (RWD): Number of Restricted Work Days due to Restricted Incapacity accidents (In cases of injuries exceeding 15 days, the incident is upgraded to the Lost Day Accident Class.)

Medical Treatment Case (MTC): Beyond First Aid, these are accidents that usually result in Medical Intervention in hospitals/outdoor health institutions and where the casualty returns to work on the day of the accident or the next day. (Stitching etc.)

First Aid: Does not require any medical intervention (stitching, surgery, surgical intervention, a heavy operation, etc.); These are accidents with minor injuries that can only be treated with the intervention of a first aider.

Occupational Illness – OI: Occupational Illnesses are diseases that have been diagnosed. eg; Work-related skin diseases such as dermatitis, skin cancer, ulcers, acne, Lung diseases such as occupational asthma, exposure to asbestos.

Property and Equipment Damage (PED): Injury free; accidents that result in damage to materials, equipment, or a production made



Fire – FI: These are the accidents that occur as a result of combustion reactions that occur as a result of the combination of the substance with heat and oxygen and/or any form change that occurs as a result of this. Major fires are fires that are intervened by smoke clouds, fire extinguisher or extinguishing methods, or fires that occur with a change in form before the smoke comes out.

Environmental Incident – EI: Chemical spills, spills, spills and spills that can damage soil - air - water.

Near Miss – NM: In other circumstances, it is a situation that may result in human injury, damage to the environment or damage to property and equipment, but no harm has occurred in the event that occurred.

Unsafe Behavior: Any behavior that increases the likelihood of an accident by deviating/deviating from generally accepted HSE procedures or behavior specifically defined for doing the job. eg; using shortcuts to get work done, using damaged equipment, etc.

Unsafe Condition: Situations in which the workplace environment has changed from an accepted safe state and which, if not corrected with appropriate action, could result in death or injury.

Total Recordable Cases (TRC): It is the total number of Fatal Accident, Lost Work Day Accident, Restricted Incapacity for Work, Medical Intervention Accident.

Environment: It refers to the air, water, soil, natural resources, flora, fauna, people and the environment in which an organization carries out its activities.

Environmental Dimension (Cause) : These are the factors that may cause Environmental Pollution and Resource Consumption (chemicals, electricity, water use, noise, emissions, all kinds of waste, consumption elements, etc.) in the working environment or unit.

Environmental Status: It refers to the state or characteristic of the environment determined at a particular point in time.

Environmental Impact: Any positive or negative change to the environment caused, in whole or in part, by an organization's environmental aspects. An effect is a positive or negative deviation from what is expected.

Prevention of pollution: It is the use of processes, applications, techniques, materials, products, services or energy to prevent, reduce or control the formation, emission, or discharge of any pollutant or waste to reduce adverse environmental impacts.

Sub-REC: Stands for REC MAOG Project REC. However, for subRECs, the subREC will be responsible for such responsibilities in the context of the HSE rules as per the subcontract between the parties or the Occupational, Health, Safety and Environmental Management Plan (OHS) of the Project, or the HSE rules assumed by the current legislation.



Employer Engineer means the company or persons acting on behalf of the Employer/Customer/Owner.

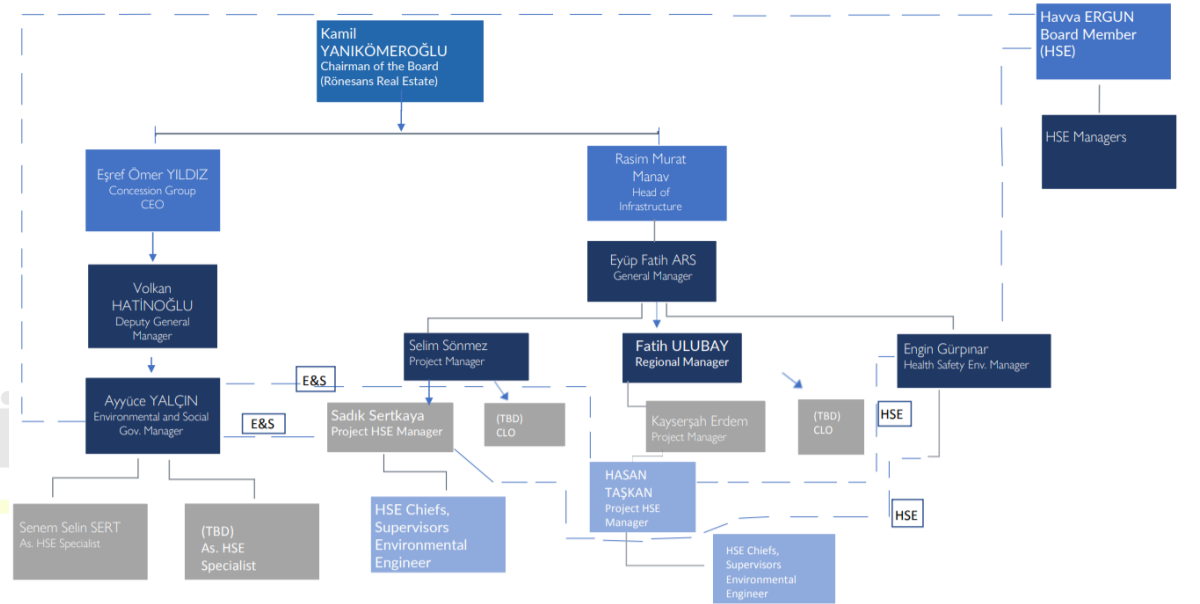
Party or Parties Means the REC MAOG Project, subRECs of the REC MAOG Project and their subRECs.

Project Means all works in the REC MAOG Project to be performed by the parties on behalf of the REC.

SubREC means any company working on behalf of the REC MAOG Project and any other company or persons working on behalf of these companies.

4.0 Project E&S Organization Chart

RÖNESANS E&S ORGANIZATION CHART





5.0 ROLES AND RESPONSIBILITIES

The REC MAOG Project will ensure that adequate resources are continuously provided to meet the requirements of this plan and that the personnel responsible for the fulfillment of the duties and requirements within the OHSYP are adequate in terms of training and experience.

The main tasks and responsibilities for the implementation of this plan are given below:

Project Manager:

- To plan, organize, lead and control the project team in order to carry out all contractual activities.
- To support and advance the Project Health, Safety and Environmental management programs and in particular to coordinate the commitment and motivation, risk management, incident, investigation, emergency preparedness and other elements under his responsibility.
- Delivering a safe, environmentally sound and cost-effective project.
- Selecting and approving large-scale subRECs who have been appropriately evaluated and have received HSE Training.
- Terminating subcontracts in case of poor performance.
- Reviewing resource requirements for subRECs.
- Evaluate and validate HSE and competencies.
- To raise awareness about Health and Safety and to develop project objectives in order to ensure the implementation of the OHSYP.

HSE Manager/Supervisor:

- To ensure that the organization in the construction site is established to encourage and implement safe working practices.
- Presenting and supporting the Project Manager, Department Manager/Chief and managers on the implementation and follow-up of the Project OHSYP and procedures.
- Providing HSE Assurance to the project management team.
- Participate in the development and implementation of REC Emergency Response Procedures/Plans.
- Participate in the development of safety plans.
- Leading the development of an HSE system that delivers excellence in HSE performance by developing coaching and training plans and overseeing the preparation of materials and the distribution of schedulers for the project.
- Planning Health, Safety and Environmental activities.
- Leading the investigation of accidents and incidents.
- Maintaining health and safety records.
- Participating in internal and external HSE meetings and providing effective communication on matters related to HSE performance, expectations and strategy.



- To promote the eradication and prevention of accidents, incidents and occupational diseases in work areas.
- To prepare a list of HSE equipment that concerns the project specification.
- To oversee the activities of the occupational health unit.
- To advise on the precautions to be taken against physical and chemical working environment damages.
- To organize trainings and meetings in order to create and increase the awareness, attitudes and motivation of the employees on HSE .
- To ensure that all project personnel are aware of their responsibilities and fulfill these responsibilities in accordance with the Project Occupational, Health, Safety and Environmental Management Plan (OHSYP).
- Prepare, implement and follow project environmental plans and procedures.
- The REC HSE Manager/Supervisor must be fully aware of all the work done at the construction site and must attend all planning, progress meetings and regular meetings strictly.
- The control and, if necessary, revision of Risk Analyzes prepared specifically for potential hazards in the work areas are under the responsibility of the REC HSE Manager/Supervisor.

Department Manager/Supervisors:

- Reviewing resource requirements for subRECs and monitoring/supervising HSE Performance.
- To ensure the practical implementation of the Occupational, Health, Safety and Environmental Management Plan (OHSYP).
- Full accountability and responsibility for all HSE matters and contractual performance.
- To ensure that the risks are defined, that the controls are in place and that these controls are secured and affect the work.
- To contribute and encourage continuous and effective communication between all parties involved in the project.
- To ensure that the Lessons Learned are appropriately taken into account during the construction of the project.
- Involve and train local staff in the project team.
- Ensuring that end-of-work meetings are held in order to identify losses / successes and lessons learned for the purpose of continuous improvement.

To ensure that the Civil Works Logbook, the details of which are given under the section titled “Information and Documentation” of this Plan, is provided in advance and kept during construction.

Group/Division Supervisors:

- To ensure that the works under their control are planned and carried out with the greatest care in fulfilling the requirements as well as HSE .



- To ensure that risk assessments and method statements are made for the works under their control and that their details are communicated to the relevant persons.
- As part of the risk assessment process, ensuring that the project team members responsible for taking preventive and protective measures regarding project operations are competent and familiar with their duties and responsibilities.
- To organize adequate and appropriate facilities in the fields of HSE , if necessary, for personnel at all levels under their orders.
- When assigned, to ensure that subRECs work in accordance with site rules and approved safety statements for their envisaged work, to monitor their effectiveness and compliance with these rules.
- To monitor the health, safety and security performance in their regions / departments and to conduct regular construction site / department inspections.
- To ensure that people who use equipment, machinery and equipment are competent, have received the necessary training and have training cards if necessary.
- To ensure the use of personal protection equipment.
- To report, record and investigate all kinds of accidents and dangerous events in contact with the REC HSE Manager/Chief, and to ensure that corrective measures are taken to prevent their reoccurrence.
- Performing weekly inspections of work areas.
- To ensure that violations within the work area / department under their responsibility are detected and all kinds of security audit reports are promptly written.
- To show interest and concern in HSE and to set an example of good personality.

HSE Supervisors

- To be constantly aware of the changing conditions of the construction site so that a quick response can be made in case of an accident / incident at the construction site.
- To be aware of the use of all kinds of dangerous substances in the construction site and to be informed about the necessary precautions in case of contact with these dangerous substances.
- To attend Occupational Safety meetings.
- To support employees in the assessment and elimination of risks.
- To control unsafe conditions and actions.
- To warn and report people who do not comply with the HSE instructions.
- To regulate traffic rules regarding vehicles, equipment and employees.
- To ensure that personal protective equipment is distributed to employees, their use and relevant records are kept.
- To ensure that necessary and appropriate HSE alerts are placed in certain areas of the work area.
- To support the HSE Manager/Chief in the practical implementation of the Occupational, Health, Safety and Environmental Management Plan (HSYP) and supporting documents, and fully complying with all his instructions



- To attend HSE meetings with sub-RECs, supervisors and employees if necessary.
- To organize and participate in HSE communication campaigns.
- To cease work if the work area is not safe.

Training/Documentation Officer:

- To actively give the necessary training to the personnel on time and in accordance with the HSE training calendar.
- Entering the given trainings into the data record on a daily basis and reporting weekly to the REC MAOG Project HSE Manager/Supervisor.
- Recording the personal information of the trained personnel (name, surname, date, name of the training, company name, etc.).
- Determining the trainings that should be given to the personnel, apart from the annual training plan, and giving the trainings within the program.
- Documenting HSE related documents in terms of contract and legislation within the scope of the project.

Engineer, Technician, Foreman, Foreman:

- To take all reasonable precautions to ensure the health and safety of employees and to ensure that equipment and materials are not damaged.
- To implement the Project Occupational, Health, Safety and Environmental Management Plan (OHSYP) and all related HSE procedures.
- To comply with and apply the HSE instructions specific to the construction site.
- To make recommendations regarding Health and Safety.
- To attend HSE Meetings at the work site if necessary.
- To report all kinds of dangerous conditions, accidents, incidents, violations of rules, etc. regarding the project HSE management.
- To follow the employees regarding their compliance with the HSE instructions specific to the construction site.
- To ensure that hazards associated with the work they are overseeing are identified and appropriate controls are in place prior to commencing work.
- To cease work if the work area is not safe.

Entire REC Staff:

- To take all reasonable measures to ensure the health and safety of employees, equipment and materials, and the environment.
- To monitor and comply with all HSE rules and regulations.
- To report any unsafe actions and conditions to supervisors.
- To report all kinds of accidents, incidents and reportable situations to the supervisors.
- To report any equipment damage to the relevant supervisors.



- Helping to create a safe and clean workspace.
- Reporting any near miss accident.
- To take reasonable precautions for those who may be affected by their own activities and omissions, as well as their own health and safety.
- To cooperate with the management regarding HSE issues. To use devices, machines, tools, objects or materials in accordance with training and instructions.
- Properly use any personal protective equipment provided.
- Accept reasonable assessment and training offers, particularly regarding safe passage and construction skills certification.
- To be in appropriate behavior and to set an exemplary personality.

Scaffolding Supervisor:

- It is responsible for the safe installation and dismantling of the scaffolds used in the project site in accordance with their intended use, with daily and weekly controls and inspections, and for filling in the relevant forms and recording them.

Traffic Supervisor:

- Regulates the vehicle pedestrian traffic and controls it daily. He/she is responsible for the displacement of the service roads where the project soil movement will occur and the roads that intersect with the roads in use, and the placarding of the roads. He/she provides daily weekly controls and inspections to prevent Vehicle-Pedestrian, Vehicle-Vehicle, Vehicle-Vehicle (Civil) accidents and is responsible for filling in and recording the relevant forms. Organizing MEPI Meetings.

Lifting Operations Supervisor/Responsible

- Responsible for the daily and weekly inspections of the lifting equipment assigned by the REC HSE Department and the safe execution of lifting operations. The daily controls will be recorded and delivered to the HSE Documentation responsible.

5.1 Headquarter E&S Manager

Responsible for managing infrastructure and superstructure projects regarding environmental and social governance issues and member of the Executive E&S Committee on behalf of the REC.

5.2 PIU (Project Implementation Unit)

PIU Physics Engineer :

Responsible for supervising health and safety for the Project.

PIU Department Manager (Superstructure / Civil Engineer): will be responsible for overseeing the implementation of all health, safety and social measures, as specified within the disclosure package of the Project, and regular reporting to AYGM PIU.



PIU Department Manager (Environmental and Feasibility / Environmental Engineer) will be responsible for supervising the implementation of all environmental and biodiversity measures, as specified within the disclosure package of the Project, and regular reporting to AYGM PIU.

PIU Department Manager (Railway Design) Responsible for supervising, monitoring and auditing the REC Design Office Manager, implementing their responsibilities in the Railway Safety Plan within coordination of Construction and E&M Affairs departments.

5.3 Executive Environmental and Social Management Committee

Executive E&S Committee Project Manager (Department Head / Branch Manager /Head of Department) will be ultimately responsible for overseeing the activities undertaken by the AYGM/TCDD specialists (listed below), overseeing the implementation of mitigation measures and management procedures specified within the disclosure package of the Project, and overseeing the preparation and implementation of a CESMP, which will be based on this ESMP.

Executive E&S Committee Environmental, Health and Safety, and Social (EHSS) Manager (Specialist / Engineer) will be responsible for overseeing all matters that relate to environment, health, safety and social aspects of the Project. Also, s/he will be appointed to be responsible for supporting the implementation of the SEP, by conducting regular consultation with affected communities on any concern regarding the Project. CLOs will also have responsibility for disseminating the Project disclosure package as described in the SEP. They will also conduct regular inspections of records relating to grievances received and their resolution. S/He will report regularly to AYGM PIU.

Further technical staff may be required during the course of the Project, who will be assigned internally by the AYGM, either by means of permanent or temporary basis until the completion of relevant tasks under the Project whilst they undertake their current responsibilities.

6.0 OCCUPATIONAL HEALTH & SAFETY

6.1 REC MAOG PROJECT (HEALTH, SAFETY AND ENVIRONMENT) POLICY STATEMENT

The Health, Safety and Environmental Management plan has been created in accordance with ISO 45001 and ISO 14001 in order to carry out all kinds of activities and services offered by the REC MAOG Project in a healthy manner.

We are fully committed to effectively managing health, safety and the environment in all our activities by providing a safe work system, a safe working environment, preventing occupational accidents, injuries, diseases, harm to people and protecting the environment. We will always



strive to continuously improve our HSE performance by setting ourselves HSE goals and objectives.

REC MAOG Project Management is committed to achieving this goal by making accident prevention and environmental protection a top priority, as well as the health and safety of its own employees, subRECs' employees, visitors and the general public.

The personal safety and health of each employee of our institution is of primary importance. We believe that our employees are our most important assets and that their safety in the workplace is our most important responsibility. We are aware of the fact that personal safety and health and environmental protection and protection require a continuous and continuous team effort, therefore we aim to constantly involve all relevant parties in taking responsibility for their own safety and complying with corporate policies and procedures.

We will strictly comply with all applicable legislation and internationally accepted business practices and procedures, as well as our customers' safety and health protections and incentives, and environmental protection requirements.

We will achieve our goal as follows:

- It will be adapted and adopted according to local OHS legislation and REC HSE standards as necessary. Development, distribution, maintenance and monitoring of an HSE application in accordance with internationally accepted standards.
- Defining and conducting all necessary HSE Trainings for all personnel involved in the REC MAOG Project.
- Assigning qualified HSE Personnel and providing adequate resources.
- Minimizing waste by evaluating activities and ensuring that they are as effective as possible.
- Minimizing toxic emissions.

We will implement, continuously monitor and improve all REC standards, REC MAOG Project procedures and ensure that they comply with policies.

The REC MAOG Project is committed to establishing a management system to:

- To carry out all its activities in accordance with legal regulations, Employer requirements, good practices and expectations;
- To ensure the continuity of customer satisfaction created by the quality of products and services and to achieve all environmental, professional HSE targets;
- To take all kinds of measures to ensure the safety and occupational health of the employees.

The following REC principles have always been followed during the execution of the works, and these principles also apply to REC subRECs:

- Providing the support of the top management;
- Assigning sufficient number of HSE Personnel;



- Developing HSE guidelines for each job;
- Giving necessary instructions to each new employee;
- Doing business under supervision;
- Instilling HSE awareness to all personnel.

Determination of Environmental Dimensions and Impacts

In order to determine environmental dimensions and impacts, environmental dimensions and impacts are determined and recorded with service and area-based "Environmental Dimension Analysis".

"Environmental Dimension Analysis" is created specifically for the service, for routine and non-routine activities.

While determining the environmental dimensions, the inputs and outputs related to the activities performed and the services provided are taken into account and their environmental impacts are evaluated.

The following are taken into account when determining the perimeter dimensions:

- Emission to air,
- Wastes left in water,
- Wastes dumped onto the ground,
- The use of raw materials and natural resources,
- Energy use,
- Energy release (heat, radiation, noise, light..etc)
- Waste and by-products,
- Use of space (Physical properties such as size, shape, color, appearance)
- Leakages,
- Extraordinary situations such as fire, explosion

When evaluating the effects of environmental dimensions on the environment:

- Normal working conditions,
- Unusual operating conditions, including when services are stopped or newly started,
- Accidents, unexpected situations,
- Possible unusual circumstances,
- Environmental impacts due to past, ongoing and planned activities are taken into account.

Among the identified environmental dimensions, the following are taken into account in determining those with significant environmental impacts:

- Legal requirements,
- Environmental risk situation (the nature of the hazard, its magnitude, probability of occurrence, consequences in case of an accident),
- Environmental accidents in the past,
- Current and potential ailments
- Use of natural resources, issues related to resource management,
- Effects with unknown consequences due to insufficient information are taken into account.

As a result of the evaluation, the measures to be taken and the activities to be done according to the size of the environmental dimension are determined by the MAOG Environmental Engineer, Environmental Officer and MAOG HSE Manager.

No	CATEGORY	POSSIBILITY OF DAMAGE
1	Very Low Possibility	If no similar event/accident related to the said risk has occurred within the Holding before, the probability is determined as "1".
2	Low Possibility	Similar event/accident related to the risk in question; - If it has happened once within the scope of Holding or REC International Construction infrastructure projects, the probability is determined as "2".
3	Possible	Similar event/accident related to the risk in question; -If more than one has occurred within the scope of REC International Construction infrastructure projects, the probability is determined as "3".
4	Very Possible	Similar event/accident related to the risk in question; - If it has happened once within the MAOG, the probability is determined as "4".
5	Almost Certain	Similar event/accident related to the risk in question; -If more than one has occurred within the MAOG, the probability is determined as "5".
No	CATEGORY	DAMAGE SEVERITY
1	Very low impact / Near Miss	Damages with little impact on the environment. E.g; low amount of leakage (vehicle oil leak etc.)
2	Minor Impact	-Slight environmental damage within the site boundaries, negligible financial consequences. -Leakage (Minor chemical leaks, equipment, generator, etc.) / local pollution / no public impact / cleaning in a short time
3	Medium Impact	-Adequate pollution or discharge that would cause harm to the environment without a lasting effect. (Local Pollution/ /stop of activity/evacuation of personnel/long-term cleaning) - One-time violation or one-time complaint of the law or the prescribed limit
4	Serious Impact	- Significant environmental damage, - Circumstances that affect and harm the environment, - Widespread and persistent violations of laws or prescribed limits or complaints, -Uncontrolled spillage (Valve etc.)/non-compliance with laws/ legal penalty / Business Suspension / Evacuation of Business Personnel/ long-term impact
5	Very Serious Impact	- Significant permanent environmental damage or significant disturbance over a wide area, loss of nature protection resulting in significant financial consequences for the company -Continuing violations of laws or prescribed limits -Major leaks (leaks that will seriously affect the nature)

Major public impact / non-compliance with the law – major penalty/project stoppage
-Public evacuation/Field boundaries

N: Normal operation, AB: Unexpected

5*5 matrix system was used for Risk Assessment. • Hazard identification; Anything that can harm people and the facility can be qualified as a hazard.	
Risk Factor:	
Values 1-4 are “LOW risk”	LOW Acceptable / Maintained through the HSE Management System / Continuous improvement
Values of 5-12 are “MEDIUM” risk.	MEDIUM Although tolerable, ALARM is given
Those with 15-25 express “VERY HIGH RISK”.	HIGH Unacceptable.

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Scope of Impact			
T	On soil	DKK	On the use of Natural Resources
S	On water	ÇAÇ	On Work Site Perimeter
H	On the air	BÇ	On Biodiversity
Life Cycle			
1	Raw Material Supply	3	Transport / Delivery
2	Production/Service	4	Final Disposal

In order to reduce the environmental impact of activities, targets are set and targets are followed. The results obtained are evaluated at the Management Review meetings. As a result of the evaluation, important environmental aspects are transferred to the Management Program by the HSE Managers.



The need for training or preparation of new documents for important environmental aspects is evaluated. For training needs, the necessary training planning is made in accordance with the Training Procedure. Document preparation and revision needs are met in accordance with the Document Management Procedure.

Zero Tolerance Policy:

In addition to the measures taken to improve Occupational Health, Safety and Environment practices in the projects and businesses of Ronsans Holding and its subsidiaries and to prevent obvious absolute hazards from causing undesirable results, in case of violation of the rules set forth below, Ronsans Holding's HSE Disciplinary Violation Procedure (HOL-HSE-PRO) -009), this ZERO TOLERANCE POLICY will apply.

1. Physically attacking and/or getting involved in a fight
2. Using, being under the influence, providing, possessing alcohol and/or drugs while working
3. Working at height without taking/implementing safety measures and using a belt
4. Modifying/destroying scaffolding and other elevating work platforms without authorization
5. Violating the speed limits more than once and driving inside and/or outside the business/project area
6. Modifying/destroying emergency equipment without authorization
7. Disrupting / disabling security equipment
(Isolation devices / emergency shut-off valves, lockout / tagout devices, opening systems, relief valves, equipment guards, fire and gas alarm systems, alarms, crane computers, in-vehicle monitoring systems, etc.)
8. Attempting to operate/use locked or tagged equipment or unauthorized tampering with the energized system
9. Using work machines without a valid license
10. Entering and working in a closed area working area outside of his/her authority

Regardless of whether they are main REC or subREC employees, employees who violate the above rules will be immediately removed from the projects and businesses affiliated with Ronsans Holding.

6.2 APPROACH TO HSE

6.2.1. Principles of OCCUPATIONAL HEALTH & SAFETY

REC MAOG Project acknowledges that the HSE management is a responsibility of the administrative levels, its principles must be strictly followed by the employees and subRECs, and the management must direct the workers and control the work sites.



The following points constitute the HSE principles to be applied:

While all kinds of work are carried out responsibly, decisions will be made/made by taking into account HSE , economic and social factors.

The REC MAOG Project will give high priority to HSE management. HSE will be the responsibility of anyone working on the project anywhere. A good HSE performance and the health and safety of everyone working on the project are critical to the success of the business. The project objectives are;

- No harm to anyone
- No damage to the property during the project.

Requires the management of the REC MAOG Project to take direct management responsibility for the HSE performance of every employee on all construction sites.

6.2.2. No Harm to Anyone

In principle, there is a clear general acceptance in the Project operating culture that accidents and harm to people are unacceptable. The project goal is zero incidents and accidents to achieve the goal of no harm to people. It is accepted that incidents will occur and that each incident that has occurred will be investigated and reported by the security management; however, the goal is clear; causing no harm to people and preventing the event from happening again.

The purpose of the REC MAOG Project is to pay due attention to Health and Safety in relation to the contract. In order to achieve this, it is essential to adopt a risk assessment approach to good planning, to identify damages and to eliminate risks, together with the cooperation of all subRECs.

The REC MAOG Project will coordinate with various subRECs working in site development. SubRECs are expected to comply with current legal obligations, good working practices and rules, and regulations set by the REC MAOG Project, which will be brought to the attention of site personnel and interested parties.

Regarding accidents, incidents or near misses, the Health, Safety and Environment Site Representative (HSE Supervisor-Supervisor) will be informed and a copy of the report form will be sent to the REC Site Supervisor if it is necessary to notify government officials of the incident. More detailed guides are in Section 7.0 of this document: Available under Verification and Tracking – Incident Investigation and Reporting.

SubRECs and their employees are required to support the implementation of this plan and to provide a safe and healthy construction site for all employees and visitors. If any employee witnesses an unsafe situation or finds himself in a dangerous situation, he will immediately report this to his supervisor or site management.

With these general objectives in mind, our aim is to:

- Zero Accidents,
- No harm to anyone,



- No damage to any Machine/Equipment,
- Strict compliance with applicable regulations.

6.2.3. HSE Management Strategy

The focus is on reducing any HSE risk; however, do this not on a daily basis, but especially taking into account what is considered high risk and known to have caused serious injury in the past. Old lessons learned from past projects of the REC MAOG Project, risk assessment, safety meetings, safety analysis, etc. will be taken into account when performing risk analysis exercises.

These are based on the Occupational, Health, Safety and Environmental Management Plan (HSEP) and REC MAOG Project procedures, respectively, and their subRECs are expected to model them during the construction of the works.

The REC MAOG Project states that the Occupational, Health, Safety and Environmental Management Plan (HSEP) for subRECs must contain mandatory requirements that must be complied with at all work sites and must comply with the HSE Management System (H&S MS) described in Section 6.2.4 below. SubRECs shall ensure that all their employees are trained in accordance with this plan and that this plan is always implemented.

All HSE team involved in the project will be approved by the REC HSE Manager/Chief on the basis of competence (experience, training, certificate, etc.). All SubRECs who will work in the project will make ministry notifications of Occupational Safety Specialist, Occupational Physician and OHP (Other Health Personnel) with the qualifications specified in the TR laws and regulations, and the personnel assigned within the periods specified in their contracts will fulfill the requirements of their duties, authorities and responsibilities in their work areas.

All HSE site personnel will be equipped with or have access to telephone or handheld radio, computer and printer.

A communication system with a sufficient number of devices (ie, a radio system or an equivalent system) will be established among all the HSE team involved in the project.

In order to provide better control of the construction site, the REC MAOG Project will implement a zone system throughout the project. Each region will be assigned a manager / officer from the REC and these people will be considered as responsible for the implementation of the HSE program in their respective regions. Regular inspections will be carried out in each region.

The REC MAOG Project will implement a rewarding and recognition program that is transparent in practice and based on reliable data to promote the best HSE performance and practice.

6.2.4. Health, Safety and Environmental Management System

The REC MAOG Project will take a systematic and pro-active approach and implement a policy that addresses the Health, Safety and Environment goal and strategy, in particular:

- Staff development, skills training and competence
- Minimization of losses



- Management control,
- Standards
- Application method,
- Promoting a positive Health, Safety and Environment culture
- Inspection and evaluation
- Continuous improvement

A policy statement signed by the highest level management is in effect and will be delivered to all personnel at the construction site as printed material, HSE instruction before the start of the works. The REC MAOG Project will fulfill the basic requirements for safe work as follows:

- Positive identification and certification of all devices, equipment and power tools on site.
- Identification, training, supervision and support of all workforce personnel on site.
- Identification, training, supervision and support of all other authorized personnel on site, including visitors.

REC MAOG Project basically includes basic HSE processes in the following subjects; shall include, but are not limited to, plans and procedures:

PROCEDURE NO:	PROCEDURE TITLE
MAOG-RECU-GN-GNL-IS-GNL-PRG-0001-0	Incident and Accident Management Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0002-0	Hazard and Risk Management Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0003-0	HSE Training Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0004-0	HSE Leadership and Key Performance Indicators (KPI) Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0005-0	HSE Incentive Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0006-0	HSE Disciplinary Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0007-0	HSE Monitoring, Verification and Evaluation
MAOG-RECU-GN-GNL-IS-GNL-PRG-0008-0	Permit-to-Work Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-0009-0	Procedure for Control of Life-Threatening Activities
MAOG-RECU-GN-GNL-IS-GNL-PRG-00010-0	Change Management Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00011-0	SubREC Management
MAOG-RECU-GN-GNL-IS-GNL-PRG-00012-0	Lifting Operations Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00013-0	Construction Machinery and Equipment Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00014-0	Fire Safety Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00015-0	Work at Height Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00016-0	Scaffolding Safety Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00017-0	Traffic Management Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00018-0	Excavation Activities Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00019-0	Personal Protective Equipment Procedures
MAOG-RECU-GN-GNL-IS-GNL-PRG-00020-0	Confined Space Procedure



MAOG-RECU-GN-GNL-IS-GNL-PRG-00021-0	Hazardous Energy Control Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00022-0	Electrical Safety Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00023-0	Sub-REC HSE Evaluation Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00024-0	Construction Site Personnel Entry Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00025-0	Arrangement Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00026-0	Working Procedure with Hazardous Materials
MAOG-RECU-GN-GNL-IS-GNL-PRG-00027-0	Color Coding Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00028-0	Storage and Stacking Procedure
MAOG-RECU-GN-GNL-IS-GNL-PRG-00029-0	Procedure for Safe Working on Line

6.3 HSE KEY PERFORMANCE INDICATORS (KPI)

REC will develop Key Performance Indicators (KPIs) to evaluate the HSE performance of the project. The determined KPIs will be used in measuring and reporting the HSE performance and will be based on the HOL-HSE-PRO-007 HSE Leadership and Key Performance Indicators (KPI) Procedure. However, not limited to the examples given.

According to the agreed KPI parameters, the performance of the subREC HSE Experts and REC manufacturing supervisors will be recorded and monitored by the REC.

6.4 HSE KEY PERFORMANCE INDICATORS (KPI)

Monthly HSE statistics will be kept and recorded in the project. Monthly HSE Statistics Report is used for follow-up. The following information is included in the reports.

- Training
- Number of Man Hours
- Waste quantities
- Number and Types of Work Permits
- Number of Open Nonconformance
- Infirmary Records etc. information will be entered on the Holding HSE Portal on a monthly basis.
- HSE Targets

7.0 MITIGATION MEASURES

The following mitigation measures will be adopted to control HSE related impacts.



7.1 HAZARD IDENTIFICATION, RISK ASSESSMENT AND MANAGEMENT

7.1.1 General

Beyond the necessity with the HSE perspective, it is a legal requirement that employees make a risk assessment for each task they are likely to perform during their job. Therefore, in the REC MAOG Project, all risk assessments will be made, documented, preserved and a copy will be delivered to the HSE document unit before starting work. All kinds of risks will be reviewed periodically and it will be ensured that the dangers and risks of the operation do not change. At the same time, the risk assessment will be reviewed if working systems or external factors change.

7.1.2 Risk Assessment Procedure

A Risk Assessment Procedure will be in place and all risk assessments will be made according to this procedure, the relevant performance plan, method statements and the like. All these documents will be created by authorized persons in the construction department and given to the HSE department. The designated HSE Specialist will set up a commission to write overall risk assessments. The members of this commission will be the HSE Manager/Chief or the person assigned by him, the relevant group chief, the relevant foreman or supervisor, and at least one employee from the team. A specific Risk Assessment will be required for any work done on site. The risk assessment will be completed by the technical team leader of the relevant employees and approved by the subREC's officers. It will be notified to the HSE officers of the REC MAOG Project. For certain high-risk activities (eg: high-altitude work, hot work, confined spaces, heavy lifting, earthmoving, Lock and Tag, X-ray, explosive atmospheres (ATEX)) a work permit will be added to complete the risk assessment. Details of work permits and jobs requiring work permits will be defined in the Work Permit Procedures.

The following systematic approach will be applied for risk assessment:

- Identification of hazards
- Identification of the parties to be affected
- Diagnosing risks, existing controls, and risk probability/severity
- Identification of measures to be taken
- Recording of decisions
- Disclosure of findings
- Revision

All method statements and risk assessments will be reviewed annually. At the same time, all relevant method statements and risk assessments will be reviewed in case of changes in operating conditions, external factors, equipment, technology or after any event.

All conditions and control measures defined regarding the risk assessment / work permit will be implemented under the control of the REC MAOG Project Manager before starting work and will be maintained throughout the duration of the assignment. During the task, the risk assessment and the relevant work permit will be available at the work site and will be available to the team



leader of the relevant employee. The manager of the relevant work will check at the beginning of each half-day whether there has been any change in the working conditions compared to the risk assessment or work permit.

The following subsections provide examples of substances for which risk assessment and method statements will be required. In general, risk assessments are required for all activities. Therefore, the risk involved varies and is not limited to the listed activities, the need to identify risk levels for any activity is to identify the need for appropriate management controls, in particular an effective Work Permit system.

Other risk assessments and method of construction method statements may be necessary to manage any risks and hazards that have been identified following the analysis of the scope of work.

Risk Assessment Examples:

- Access roads
- Emergency Response
- Excavation
- Fire Prevention and fire fighting
- Heavy lifting, haulage and cranes
- Radiography
- Scaffolding
- Storage of fuels and chemicals
- Welding and cutting
- Working at height
- Working in restricted areas
- Noise Control
- Electricity Works
- Portable tools
- Vehicles
- Power lines
- Working in the city, level crossings
- Working at operating railway line

All employees receiving risk assessment training and briefing are required to sign the training or safety meeting records as proof that they have been briefed on work-related risks by team leaders through a pre-task meeting, training, or safety meeting. In addition, all risk assessments will be communicated to employees and made available to them if necessary. These trainings and signature records will be held in a safe and closed place to the construction site.



7.1.3 Management of SubRECs

Managing subRECs in construction projects poses a separate challenge to risk management at the construction site. Effective management of the HSE performances of subRECs can sometimes be overlooked due to the following issues regarding subRECs:

- They may only exist on site for a short time and are incorrectly considered to pose little or no risk.
- They may be wrongly considered responsible only for their own activities and their consequences.
- They can operate completely separate from the main project activities.
- Risk exposure may not be taken as part of the risks to the entire site.
- They may not know their own responsibilities in risk management.
- They may not be committed to risk controls.
- They may take unnecessary risks to cut costs and increase profits.

The REC MAOG Project is aware of the fact that the risk management process must be managed effectively so that effective strategies must be in place to eliminate or minimize risks. It is the responsibility of the REC MAOG Project and subREC management to ensure an effective safety management at the construction site. To this end, the REC MAOG Project will require subRECs to:

- Working safely by following REC procedures,
- SubRECs also work safely and in accordance with the legislation and international OHS rules.

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Control over subRECs includes three phases for the REC MAOG Project:

1. The REC MAOG Project will prefer subRECs who:

- Those who can demonstrate that they are competent to do the job
- Those who have put forward risk prevention measures.

2. The REC MAOG Project will only allow subRECs to work on the site if they:

- Those who have successfully completed the HSE initial training,
- Those who have submitted the construction method,
- Those whose construction method has been accepted by the REC MAOG Project,
- Those who have completed the relevant subREC entry procedure,
- Employees who have completed occupational physician checks and whose suitability has been determined.
- Employees who have completed the personnel recruitment procedure.
- Those who have submitted a method statement regarding their scope of work.



- Those who have completed and delivered the documents in the list of documents notified to the subREC at the work start meeting.

3. The REC MAOG Project will follow the risk assessments of subRECs to ensure:

- They do the work according to the REC MAOG Occupational, Health, Safety and Environmental Management Plan (OHSYP).
- Working according to their own working method statements.

All subRECs will comply with the REC MAOG Project Health Safety and Environmental Management Plan. This plan is an integral part of REC/subREC agreements. This Occupational, Health, Safety and Environmental Management Plan (OHSMP) will be used as a guide document during all activities related to the project.

The REC MAOG Project will ensure that the latest version of this Health, Safety and Environmental Management Plan is provided to the bidder and is part of the contract during the bidding process of any subREC work. All subRECs will receive the officially updated version if changes are made to the Health Safety and Environmental Management Plan.

In addition to the Health, Safety and Environmental Management Plan, the REC MAOG Project will ensure that the subREC has all the safe work method statements necessary for the subREC's work before commencing work.

The REC MAOG Project will monitor the performance of subRECs to ensure that they comply with the safe working method statements, this plan, laws and regulations. If necessary, the REC MAOG Project will take action in accordance with the subREC agreement where subRECs do not comply with safe working method statements and do not comply with the requirements of this plan.

The REC MAOG Project will require subRECs to have a sufficient number of HSE professionals on site to work in close collaboration with the REC MAOG Project HSE teams outlined in this plan. In order to demonstrate the commitment of the project to HSE at the kick-off meeting with the subRECs, the REC MAOG Project will also draw the attention of the subRECs on the importance of stopping work in case of imminent health and safety hazards until the situation is corrected.

7.2 PEOPLE, TRAININGS AND BEHAVIOR

7.2.1. General

The behavior of people at all levels of the project is important for the success of the project and for the achievement of HSE objectives. It is therefore important that all personnel are carefully selected and trained, and that their skills and competencies are regularly evaluated.

7.2.2. Behavior Modification

The REC MAOG Project will implement HSE programs and training on behavior change and improved safety performance for managers, supervisors and staff.



The behavior change program will develop risk awareness and encourage teams and individuals to create an interdependent Health, Safety and Environment culture with individual and team loyalty towards improving safety.

7.2.2.1 Drugs, Alcohol and Tobacco

It is the policy of the REC MAOG Project to create a working environment free from the influence of alcohol and other drug use. Accordingly, the REC MAOG Project prohibits the consumption, use and under the influence of alcohol during working hours and always prohibits the use of illegal drugs. This includes before/after/during work or when work is being done on behalf of the REC MAOG Project, employees of REC MAOG Project subRECs must be free from alcohol, illicit drugs or controlled substances. SubRECs will apply a similar policy for their own facilities during working hours.

All kinds of alcohol on the personnel will be confiscated for consumption during social activities during the rest period at the construction site. Illicit drugs and controlled substances will never be allowed by the REC MAOG Project.

The REC MAOG Project will be able to implement a program and random testing on drug and alcohol abuse prevention.

Any incident involving illegal drugs or controlled substances will be brought to the attention of the relevant law enforcement authorities.

The REC MAOG Project will promptly remove personnel violating this policy from the premises.

For all personnel; however, random alcohol testing can be done especially for heavy machinery operators and drivers (eg cranes, earthmoving machine, etc.).

The REC MAOG Project and subRECs will note that the following key site requirements are required for all personnel:

1. Smoking, gun and drug policies will be announced at the construction site.
2. Smoking will never be allowed in the working areas. “No Smoking” signs will be respected at all times. Areas will be allocated within the construction site for smoking purposes and these areas will be away from gas-exposed or other hazardous areas. Areas allocated for smoking will be sheltered from rain and sun, and fire extinguishers and ashtrays will be available.
3. Smoking will not be allowed inside the project vehicles and indoor areas.

Individuals who violate the smoking rules outlined above may be subject to disciplinary action, including immediate dismissal.

7.2.3. HSE Trainings

HSE trainings will be structured especially for management levels and employees. The aim of these trainings is to develop a full understanding of HSE requirements and to implement the Occupational, Health, Safety and Environmental Management Plan (OHSMP) in practice. No one will be allowed to enter the construction site without the initial training (Orientation, Basic OHS



Training, Work at Height Training) and visitor training. Visitor initial training is a training that can be given to people who are not directly accepted as site workers and who stay on site for a short time.

Renewal training will be held at least every year for those working on HSE. Apart from regular refresher trainings, staff will be given refresher training under the following conditions:

- When the workplace and organization change.
- When equipment is changed.
- When external conditions change drastically.
- When Operation Method and technology change.
- When repeated violations occur and it is clear that the person does not understand the HSE rules.

All personnel will receive mandatory initial training on HSE, emergency response and related procedures. Participation will be documented and the records will be kept in the HSE office, and a copy will be presented to the Employer upon request.

The training pattern will be created by the REC HSE Manager/Chief in order to determine which person will attend which training depending on their responsibilities and competencies. It will be implemented with the approval of the REC Project Manager. Based on the training pattern, specific training will be held on site (in addition to external training/third party certifications) so that people understand the requirements of the Occupational, Health, Safety and Environmental Management Plan (OHSMP). The list of training examples to be given is given below:

MAOG HSE Policies Training	Project-Specific Hazards Training	Energy Insulation Training
Information Training on the Scope of the Project	Accident Incident Investigation Training	Permit to Work Training
MAOG HSE Organization Chart Info. Training	Organization and Hygiene Training in the Work Area	Working On Line Training
HSE Roles and Responsibilities Training	Training on Working with Chemicals	Companion Training
HSE Orientation Training	Accident and Incident Investigation Training	Procedure Trainings
Risk Assessment Training	Fire Prevention and Protection Training	Environmental Awareness and Environmental Protection Training
Working at height training,	Electrical Safety Training	Waste Separation and Recycling Training
Lifting and Equipment Training	First Aid Training	
Scaffolding Training	Limited Field Training	



Certain trainings will be provided by the REC MAOG Project, either internally or externally through its Training Officer, or from a third party or institution authorized to issue the relevant certificates depending on local legislation and REC standards.

The qualifications of the employees will be indicated on the protective caps, stickers or another similar system that can be easily accessed at the construction site. The required sticker will be given if the employee has passed the initial procedure and all required documentation (medical certificate, driver's license, training) is appropriate for the employee's function.

- Toolbox trainings, the trainings regarding chemical safety, tagging / locking, incidents / accidents, use and maintenance of personal protective equipment, work permit system, HSE committee, emergency plan and HSE trainings within the scope of the "Regulation on the Procedures and Principles of HSE Training of Employees" will be provided by the JHSU HSE specialists, workplace physician and other health personnel, MAOG procedures and ESAP requirements training will be provided by the MAOG HSE team or will be organized if they will be given by 3rd Parties.
- Within the scope of the 8-hour Technical Subjects training, risk analysis-based technical subjects training will be given.
- The annual training plan will be followed, and the person will not be put on the job without giving a minimum of 16 hours of compulsory training per person. Before each training module, a pre-test of at least 10 questions will be given, and after the end of the training, a written exam with at least 10 questions will be given, the personnel will share the effectiveness of each training with MAOG and log in to the integrated management system software. Personnel who do not get a minimum score of 70 (seventy) will not be employed

The training will be repeated by JHSU.

- Training participation certificates will be issued within 24 hours and delivered to MAOG Human Resources and the integrated management system software will be entered into the relevant training module.
- Every REC must keep the qualifications and vocational training of its employees subject to the work permit system up to date.
- JHSU provides 18 hours of training for each new personnel, such as Recruitment Orientation (2 hours), General Legislation Education (4 hours), Technical education (8 hours), Health education (4 hours). At least 20 people must be planned for the training to be completed and renewed every year. Initiation training for at least 2 hours in order to complete the recruitment process of the newly recruited personnel (Onboarding Training: Before the employee actually starts working, on issues including the job to be done by the employee, the work equipment to be used, if any, and HSE measures specific to the



workplace. practical training) should be given. SubREC Recruitment Follow-up Form must be signed by the trainer.

- The equipment/tools to be used must be given user/operator training by the manufacturer/authorized companies.
- Manager HSE trainings; All persons such as chief, responsible, manager, manager must receive managerial HSE training. For this reason, the training plan should be submitted to MAOG HSE in order to identify and complete the personnel to be trained.
- Organizations should be made in order to give weekly Toolbox conversations to all personnel, not exceeding 15 minutes, and the Tric card application should be sent to MAOG HSE on a weekly basis.
- Visitor training; Anyone who visits the workplace for inspection or surveillance purposes in the enterprise must attend the HSE visitor training.

7.3 HSE STANDARDS

This definition specifies the specific HSE rules, standards and requirements for the project. These rules represent the minimum requirements for the REC MAOG Project and subcontracted personnel to ensure that safety is an integral part of each task performed.

This definition includes detailed HSE issues that have been identified as important in the past in order to manage and effectively mitigate the hazards and risks associated with the scope of civil works construction in the country.

The issues discussed here are negotiated as a set of specific obligations imposed on the REC MAOG Project, its subRECs and other third parties, within the overall project objectives of 'Zero Accident, No harm to anyone, No damage to Property or the Environment'.

7.3.1 HSE Performance Standards

All parties involved in the project will aim to achieve the following HSE performance standards throughout the contract period:

- Zero deaths
- Zero Loss of Time Injury (LTI)
- Zero vehicle accident
- Comply with the Occupational, Health, Safety and Environmental Management Plan (OHSYP) at contract and project level
- Zero risk or zero barriers to local residents and organizations



In addition to the measures taken to improve HSE practices in the projects and businesses of Rönnesans Holding and its affiliates, and to prevent undesirable consequences from obvious absolute hazards, employees will be dismissed directly in case of violations in the specified issues.

Other Disciplinary Violations

In case of violation of the HSE Rules, the following penalties detailed in Ronesans Holding's Disciplinary Regulation are applied after being approved by the relevant parties, in order of violation.

Occupational Safety Violations specified in Rönnesans Holding's Disciplinary Regulations are as follows:

Warning:

A warning is a written notification to the relevant personnel that they should be more careful in their duties, attitudes and actions, by stating their mistakes. Situations that require warning are:

Not using or deliberately misusing the workplace clothing or equipment required for work safety.

Condemnation:

A condemnation is a written notification to the person concerned that he/she is deemed to be defective in his/her duties and/or behaviors, by stating his/her faults. Acts and situations related to HSE that require condemnation are as follows:

Failure to comply with HSE rules

Breach	Description	Approved By (Ronesans Violation)	Personnel	Approved By (SubREC Violation)
First Violation	Attract Attention (AA) (Requires written notice.	Dismissal (D) (Unilateral termination of employment in accordance with the Disciplinary Procedure and HR procedures. The permission to enter the field is withdrawn indefinitely. (In case of employment in other group companies, it is recorded in the personnel file of the employee in accordance with HR procedures.)		It will be valid with the approval of the MAOG Project Manager and the most authorized HSE personnel in the project (Manager / Responsible / Expert).
Second Violation	Warning (WA)			

Third Violation	Condemnation (KN)	<ul style="list-style-type: none"> •HSE Disciplinary Committee •General Manager / Assistant General Managers 	HSE Disciplinary Committee
Fourth Violation	Dismissal (D) (Unilateral termination of employment in accordance with the Disciplinary Procedure and HR procedures. The permission to enter the field is withdrawn indefinitely. (In case of employment in other group companies, it is recorded in the personnel file of the employee in accordance with HR procedures.)	<ul style="list-style-type: none"> •HSE Disciplinary Committee •Member, CEO and Managing Director of REC International 	HSE Disciplinary Committee

Topics in performance criteria;

- Compliance with local HSE Legislation: According to the legal and other requirements compliance table of the relevant service,
 - Fatal work accident; Number of fatal accidents
 - Recordable Accident frequency rate: It is calculated according to the accident statistics of the relevant service and the working man hours.
 - Action closure rate: Timely closing percentage of actions opened by MAOG HSE
 - Number of disciplinary penalties: The ratio of disciplinary punishments applied to the relevant service to the total disciplinary punishments
 - Number of partial stoppages: Number of work stoppages of the relevant service, its ratio to the total number of work stoppages
 - Participation in Rönesans Job-specific HSE trainings: Service training man hour ratio to project training man hour
- Incentive Scheme:
- It will be decided by the REC International Infrastructure Projects Senior Management before construction begins.

7.3.2. Working at Height

7.3.2.1 Introduction

Anyone who is likely to fall from any height will be protected. Deaths from falls from height account for approximately 25% of workplace deaths each year, and most fall-related accidents are those that could have been prevented if the right equipment was provided and used appropriately. Ladders are the most common cause of accidents. Ladders should not be used as work platforms.



Ladders are for access purposes only. All falls must be prevented and anyone working at a height of more than 1.5 meters is considered a high-altitude worker on the project.

7.3.2.2 Prevention of Falls

- Plan the entire process of working at height using risk assessment and method statements.
- Think about where the work will be performed.
- Where possible, use an existing approved structure that will provide safe access and a secure work platform. If this is not possible, a safe working platform will need to be provided.
- Keep in mind that this can give access to dangerous parts of the machines, so necessary precautions should be taken and controls put in place.
- Consider any lifting and handling requirements to get the job done.
- Consider and avoid possible electric shock hazards that may cause accidents.
- First of all, plan to be protected with collective protection measures. (Seat belt, lifeline fall arrest systems, etc.)

7.3.2.3 Basic Rules to Consider When Working at Height

- First do a Risk Assessment as part of the planning of the business.
- Plan to do as much of the work as possible on the ground.
- Do not work at heights except when absolutely unavoidable.
- Only double safety rope, shock absorbing whole body rig, 5.5 inch 22 kN durable hook can be used. Everyone will obey the binding rule 100%. Retractable type fall arresters should be used for loading / unloading of containers.
- All equipment will have an inventory number and will be audited and documented once a month.
- Lifeguard (Life) ropes and anchor points will be checked daily to ensure that they are suitable for use.
- A secure platform will be provided by paying attention to the following points:
 - Stand on solid ground.
 - Support the weight of personnel and equipment to be used.
 - Provide solid and non-rotational access.
 - Fix to an existing structure if necessary and possible.
 - Have relevant standards.
- Consider the slope of the ground, especially where movable platforms are used.
- For mobile platforms, provide guardrails to the platform and ensure that personnel on it wear safety equipment.
- Collective fall protection will be installed in places where there is a risk of 50 cm fall. Appropriate balustrades will be placed where necessary, including the top, middle and

balustrade, and these will be mandatory in all elevated walkways, work areas and floor voids.

- Barriers shall be provided at the exposed ends of the platform surface, at the holes and openings, at the ceiling ends and in the work areas.
- All balustrades must be made in 3 sections: the parts of the balustrade (minimum 15 cm), the top of the balustrade (approximately 100 cm high) and the middle of the balustrade.

Remember that poor selection, maintenance and use of equipment are the main causes of accidents when working at height. This is management's responsibility beyond the obvious disregard for good practice examples.

Table 1. Examples of protective measures by work category

Working Equipment Category	Collective Protection	Individual Protection
	Examples of Protective Measures	
Fall prevention equipment	Working on barrier platforms, Advanced guardrail systems, Barriers, Multi-lift mobile work platform (MEWP)	Personal fall arrest systems (working in a cage, etc.), Personal fall protection systems (space restraint systems, etc.), Single-person elevating mobile platform (MEWP)
Work equipment that minimizes height and fall	High level of safety nets (equipped close to the work area), Soft landing systems close to the work area	Other personal protective equipment (rope access, fixed point work systems and fall arrest systems – in this system the fall factor is kept as low as possible with systems where the fall factor is zero in order of importance.)
Work equipment that minimizes/ reduces the result of a fall	Soft landing systems , Low-equipped safety nets	Other personal protective equipment not related to fall protection (e.g. life jackets for working on water, etc.)
Fall-related work equipment (ladder, ladder, step, warning strip, etc.)	Minimizing the risk of falls with instructions, management and user training	

7.3.2.4 Working Above Head Height

Persons can normally work on stair treads without vibrating equipment in short-term jobs only if the three-point rule is up to 1.5 meters high. Only persons who have received Work at Height Training are authorized to work on temporary structures 1.5 meters above or on access means such as scaffolding and electrically powered mobile platforms.

7.3.2.5 Mobile Work Platforms

No work platforms will be brought to the construction site without the approval of the HSE Manager/Chief, and only trained and competent persons will be allowed to use these equipment. Everyone working on the Mobile Work Platform will always be dressed and connected.

7.3.2.6 Scaffolding

No one can give or bring an order to bring scaffolding to the construction site without the permission of the HSE Manager/Chief.

All scaffolding will be labeled by scaffold supervisor / persons authorized to control according to the legislation / employees with competence assigned by the project and rec will be checked by civil engineers at the site. Here's a list of labels and their meanings:

Red Label : The scaffold cannot be used.

Green Label : The scaffold is ready for use.



In the event of a red label hung by REC on the scaffold, only employees with the competence assigned by the REC scaffold supervisor / Project can change the label after notification to the subREC. The provision of well-known scaffolding inspection services is the responsibility of the REC Construction Site Chief. The construction site chief must comply with the proposals and recommendations of the HSE Manager/Chief when performing this task.

Here's a list of basic scaffolding rules:

- All scaffolding components will be manufactured by the same manufacturer.
- Scaffolding installation will be carried out in accordance with the developed method declaration.
- All scaffolding components will be capable of supporting 4 times the maximum targeted load.
- Scaffolding will be installed and dismantled by competent and certified persons.
- All high-rise rules will apply to people who work in this business during the installation and dismantling of scaffolding.



- All scaffolding will be labeled with a green label if appropriate after inspection. If the height of the scaffold is more than 4 meters, the scaffolding will be connected to the building before work or additional retaining legs will be added.
- The form on the scaffolding will be filled out daily by competent persons. In addition, the work of the scaffoldings that have not been delivered to the HSE unit by filling out the control control forms created by the weekly authorized persons will be stopped.
- It will be confirmed that the scaffoldings are either covered by general lightning protection of the site or protected locally. No activity will be carried out on the scaffolding during lightning strikes or during winds above 15 m/ second. A wind meter will be available at the site for immediate measurement.
- TS-EN documents, static accounts, finished handbooks of the scaffolding will be delivered to the HSE unit.
- Related H&S signs, load limit plate, installation plan will be hung on the scaffolding.
- No changes will be made to the scaffolding through welding, burning, bending, etc.
- Scaffolds will be installed on a safe base using cushion plank / base plates on all surfaces. The use of wood planks on mobile and façade scaffolding is strictly prohibited. Suitable metal planks will be used and the planks will be fixed so that they do not easily leave the place.
- There will be no slippery conditions (including ice and snow), litter and rubble on the scaffolding platforms. Materials on the scaffoldings passageways will be stored in bulk and not exceeding the amount to be used daily.
- Scaffolding planks will be deployed on supports that are at least 15 cm long and up to 30 cm long. Where the scaffolding planks are adjacent to each other, both planks will be supported and the overlap points will be at least 30 cm apart. The allowed range between the planks will not exceed 5 mm.
- The flooring will be made of flame retardant coating. Scaffolding working platforms will be in good condition and fully furnished with scaffolding floorboards at least 45 cm wide.
- All platforms will be resistant to at least 125 kg of load from any direction equipped with a balusting railing (1.1 m) and medium railing.
- Openings close to different level entrances will be protected by railings.
- Safety feet/shoes will be used for portable metal stairs if used for access to the scaffolding platform.
- If there is a tilt angle higher than 1.5 meters and more than 75 degrees, there will be arched guards on the stairs, and if the angle of inclination is between 70 and 75 degrees, there will be railings (vertical height 0.9 – 1.4 m) starting from 5 meters on both sides of the ladder.
- The step floors will be at least 45 cm wide and will be produced in such a way that there will be banisters, fielding, anti-slip coatings at all levels and do not pose a danger.

Scaffolding Equipment

- In scaffolding studies, the risk management tool (JHA, TRIC, PTW, etc.) is determined and applied according to the Hazard and Risk Management Procedure. Within the specified risk management tools, the installation, dismantling, modification of scaffolding, control of the hazards and risks arising from the control are explained in a comprehensive way.
- Scaffolding equipment EN 12810: They must have facade scaffolding standards consisting of pre-made components.

Pipes

- 3 types of pipes are used in pipe clamp scaffolding.
- Steel pipes with an outer diameter of 48.3 mm:
- Aluminum pipes with an outer diameter of 48.3 mm:
- EN 39 type 4 pipes with an external diameter of 48.3 mm:
- The wall thickness of such pipes is 4 mm and the smallest flow voltages are 235 N/mm².

Steel truss beams: Beam sewing pipes should typically comply with EN 39 standards.

Steel ladder beams: They must comply with EN 39 Standards.

When the use of fiberglass ladders is deemed necessary, these stairs should be selected in accordance with EN 131 and EN 61478 standards.

Steep stair towers are anchored from both floors or from the baffling floors to the scaffolding façade without erection. Anchor pipes are connected together with upright clamps to the interior and exterior of the independent scaffolding.

- HOL-HSE-PRO-004 Hazard and Risk Management Procedure
- TG20:13 Good Practice Guidance for Tube and Fitting Scaffolding – National Access and Scaffolding
- Confederation / Guide to Good Practice for Pipe Clamp Scaffolds - National Access and Scaffolding / Confederation
- SG4:15 Preventing Falls in Scaffolding Operations – National Access and Scaffolding Confederation / Preventing Falls in Scaffolding Works - National Confederation of Access and Scaffolding
- TS EN 12810 – 1 Front scaffolding consisting of pre-built components - Section 1: Finished product properties
- TS EN 12810 – 1 Front scaffolding consisting of pre-built components - Part 1: Special structural design methods
- TS EN 12811 – 1 Temporary work equipment - Part 1: Scaffolding - Performance requirements and overall design
- TS EN 12811 – 2 Temporary work equipment - Part 2: Material Information
- TS EN 12811 – 3 Temporary work equipment - Part 3: Installation tests
- TS EN 12811 – 4 Temporary work equipment - Part 4: Protection curtains for scaffolding – Performance requirements and finished design
- TS EN 1004 Mobile access and work towers made of prefabricated elements - Materials, dimensions, design loads, safety and performance requirements

- TS EN 74 – 1 Scaffolds - Consisting of pipe and joining elements - Joining elements used in work scaffolding and mold scaffolding, loose-pass guides and base plates -Part 1: Necessary conditions and test procedures
- TS EN 74 – 2 Scaffolds - Consisting of pipe and joining elements - Joining elements used in work scaffolding and mold scaffolding, loose-pass guides and base plates - Part 2: Special joining elements - Requirements and experimental processes
- TS EN 74 – 3 Scaffolds – Consisting of pipe and joining elements - Joining elements used in work scaffolding and mold scaffolding, loose-pass guides and base plates – Part 3: Flatbed plates and pin guides - Required conditions and testing procedures
- TS 8481 EN 39 Scaffolds-Consisting of pipes and joining elements-Easy-to-pass steel pipes-Technical delivery requirements
- TS EN 131 – 1 – Ladders – Part 1: Terms, dates, types, functional dimensions
- BS 2037:1994 – Specification for portable aluminium ladders, steps, trestles and lightweight stagings / Specification for portable aluminum ladder, step, coffee table and light staircase
- SG25:14 – Access Egress from Scaffold via Ladders and Stair Towers etc. / Access to the scaffolding via mobile and cascading stairs.
- HSE regulations in construction works
- Regulation on Health and Safety Conditions in Usage of Work Equipment

7.3.2.7 Ladder Safety

- All ladders will be inspected and tagged once a week.
- The railings will extend 1.05 meters above the upper shelf.
- The ladders will be fixed and connected.
- On slippery floors, non-slip ladders will be used.
- Employees will have their faces facing the ladder as they descend the stairs.
- Employees will not carry materials to prevent climbing stairs.
- Welded and hand-made wooden stairs will not be used.
- The use of stairs higher than 6 m is strictly prohibited
- The stairs used on the construction site will comply with the TS-EN 131 standard.
- The use of stairs on our construction site will be the last choice, scaffolding and tower type stairs will be preferred first. Planning will be made on this basis. Stairs will never be used in areas where the use of stairs is considered dangerous.

7.3.2.8 Flooring Gaps, Holes and Edges

- Flooring gaps or holes will be protected by approved railings or coatings.
- If the coatings are to be used, they will be strong enough to withstand the loads to be applied to them, clearly labeled with the phrase "Floor Space, Do Not Lift" and fixed to prevent accidental removal.
- An approved barricade will be fixed to prevent accidental lifting to protect open edges and all floors.



- All open sides will be protected by standard railings, except in cases where a stairwell or platforms will be placed at an entrance door or otherwise prevented people from accessing the openness.
- Fences will protect the barn mouth and flooring gaps when the hole is open, and there will be railing parts on open sides, as well as a lid of standard durability will be used when the hole is not in use.
- When the openings are not in use, they will be closed with materials with appropriate durability.
- A platform will be provided for doors or passageways that open directly to a staircase, and the door leaf will not reduce the effective thickness of the platform to less than 0.5 meters.

7.3.2.9 Wall Cavities

Wall cavities with a fall of more than 0.5 meters or where a danger exists will be protected as follows:

- Both will be provided in such a way that the height and location of the opening for the work surface reduces the risk of effective fall of the standard banister and center banister.
- A standard closing cover will protect the base of the wall cavity.
- There will be side railings or equivalent protection on an extension platform outside the wall cavity, where materials are removed for later transport. On one side of the extension platform there may be removable railings to facilitate the transport of materials.

7.3.3. Personal Protection Equipment (PPE)

Personal Protection Equipment (PPE) is last among the hierarchy of controls, as it only protects those who wear them. This section is only a promotional one for personal protection equipment.

In order to carry out the work in safety before starting any work in the project, the REC MAOG Project and subRECs will ensure that all employees at the site have all necessary protective clothing and protective equipment.

The REC MAOG Project will provide PPE to its employees and visitors and enable subRECs to do the same in relation to their own activities. PPE will be kept ready and procedures will be established for their implementation. Effective protection can only be achieved with proper PPE, correct installation, continuous and appropriate use.

- Communiqué on Harmonized National Standards for Personal Protective Equipment
- Personal Protective Equipment, AÇSGB, 2016
- TS EN 361 – Personal Protective Equipment - Against Falling From a Certain Height - Full Body Belt Systems
- TS EN 358 – Personal Protective Equipment - To Ensure Operating Safety at a Certain Height and Prevent Fall - Holding Systems, Belts and Ropes for Operating Position
- TS 5560 EN 166 – Personal Eye Protection – Specifications
- TS 6860 EN 175 – Personnel Protectors-Eye and Face Protection Equipment During Welding and Similar Operations
- TS EN 379 + A1 – Personal Eye Protection - Automatic Welding Filters

- TS EN 20471 – Clothing with High Visibility Warning - Experimental Methods and Features
- TS EN 397 + A1 – Industrial Safety Helmets
- TS EN 169 – Scale Number and Permeability Features for Filters Aimed at Protecting Employees in Hard Soldering, Opening Arc Welding Mouths and Plasma Melting Source Cutting Works in Welding Work
- TS EN 170 – Protection Ratings and Permeability Of Filters That Protect Against Ultraviolet Imbuses
- TS 8435 EN 171 – Scale Numbers and Permeability Features for Filters That Protect Against Infrared Glow
- TS EN 172 – Scale Numbers of Sun-Blocking Filters for Industrial Use Permeability and Related Properties
- TS EN 388 + A1 – Protective Gloves Against Mechanical Risks
- TS EN 374/1 – Protective Gloves Against Hazardous Chemicals and Microorganisms - Part 1: Terms and Performance Rules for Chemical Risks
- TS EN 407 – Protective Gloves Against Heat Risks
- TS EN 511 – Cold Protective Gloves
- Gloves to Protect Against Ionizing Radiation and Radioactive Pollution
- TS EN 1149-5 – Protective Gloves - Electrostatic Properties - Part 5: Material Performance And Design Features
- TS EN 420 + A1 – Protective Gloves - General Characteristics - Test Methods
- TS EN 12477 – Protective Gloves for Welders
- TS EN 352/1 – Hearing Protectors - General Rules - Part 1: Ear Concealers
- TS EN 352/2 – Hearing Protectors - Safety Features and Tests -Part 2-EarPlugs
- TS EN 352/3 – Hearing Protectors - General Rules - Part 3: Regulation on Protective Equipment worn on Industrial Safety Helmets
- Regulation on Usage of Personal Protective Equipment in Workplaces

Basic PPE Table

Personal Protective Equipment	Standard
Reflective clothing	TS EN ISO 20471
Helmet	TS EN 397 + A1
Foot Protectors	TS EN ISO 20344, 20345, 20346, 20347
Eye protectors	TS 5560 EN 166
Protections from electrical hazards	TS EN 60903

Harmonized Standard Number and Protection Feature for Face Shield

Harmonized Standard Number	Protection Feature
TS 6860 EN 175	Protection against harmful optical radiation and certain hazards during weld cutting and similar operations.
TS EN 379+A1	Changes the light permeability value to a lower predefined value when the arc source is fired.

Harmonized Standard Number and Scope for Eye Protection

Harmonized Standard Number	Scope
TS 5560 EN 166	Function-related features of different types of personal eye protectors.
TS EN 169	Scale number and permeability properties for filters aimed at protecting employees in hard soldering, opening of arcfish mouths and plasma melting source cutting works in welding work.
TS EN 170	Protection ratings and permeability of filters that protect against ultraviolet radiation.
TS 8435 EN 171	Scale numbers and permeability features related to filters that protect against infrared radiation.
TS EN 172	Permeability and related properties of solar protective filters for industrial use.

If the work is to be done on the head, leather head and shoulder brace are used under the helmet. Welder clothes are made of dark, thick and wool, subject to EN ISO 11611 standard. The sleeves of the clothes and the legs of the pants should be buttoned or rubbery and pocketless against dust accumulations.

Harmonized Standard Number and Protection Feature for Face Shield

Harmonized Standard Number	Protection Feature
TS 6860 EN 175	Protection against harmful radiation and certain hazards that will occur during weld cutting and similar processes.
TS EN 379+A1	Changes the light permeability value to a lower predefined value when the arc source is fired.

Harmonized Standard Number and Scope for Eye Protection

Harmonized Standard Number	Protection Feature
TS 5560 EN 166	Function-related features of different types of personal eye protectors.
TS EN 169	Scale number and permeability properties for filters aimed at protecting employees in hard soldering, opening of arcfish mouths and plasma melting source cutting works in welding work.
TS EN 170	Protection ratings and permeability of filters that protect against ultraviolet radiation.
TS 8435 EN 171	Scale numbers and permeability features related to filters that protect against infrared radiation.
TS EN 172	Permeability and related properties of solar protective filters for industrial use.

Glove Standards and Protection Features



Harmonized Standard Number	Protection Feature
TS EN 388	Mechanical Protection
TS EN 374	Protection in Chemical and/or Microorganisms
TS EN 407	Hot Protection
TS EN 511	Cold Protection
TS EN 421	Protection from Ionized Radiation and Radioactive Transmission
TS EN 407	Protection Against Heat Risks (Heat and/or Flame)
TS EN 1149-5	Protective Gloves - Electrostatic Properties - Part 5: Material Performance And Design Features
TS EN 420+A1	Protective Gloves-General Characteristics-Test Methods
TS EN 12477 TS EN 12477/A1	Protective Gloves for Welders

Personnel will be given the information, instructions and training they need regarding the wearing, use, maintenance and limitations of PPE. It is the responsibility of the Construction Site Chief to arrange this.

➤ PPE Instruction

- Personal protective equipment will be used in the event that technical and/or administrative controls cannot be adopted to control the hazards of a process or environment that may cause injury or injury to employees. PPE will only be used where other hazard control methods are not available or appropriate. MAOG REC Project Management will protect affected employees in relation to the hazards that require the use of PPE, determine the characteristics of PPE on a process and equipment basis, detail the mandatory service-based personal protective equipment matrix, and ensure that all employers (MAOG REC Project Management and SubRECs) use every affected personnel. All employers will notify every affected employee of their choice decisions and select the appropriate PPE for each affected employee.
- All PPE used by employees to carry out their work will be subjected to user review every morning.
- PPE worn out enough to reach the end of its lifespan or defective or damaged PPE will be decommissioned and disposed of appropriately. For example, gloves contaminated with grease, oil or other chemicals will be disposed of in accordance with the MAOG waste management program.
- All PPE will have a design and structure that is safe for the work to be carried out.
- All PPE will be marked prominently for the determination of the manufacturer.



- All PPE used will comply with all guidelines applied ce, en, tse etc.
- In case of determination of the need for this equipment by the risk assessment, all protective equipment, including personal protective equipment, will be provided free of charge by the Employer (MAOG REC Project Management and SubRECs) to employees and will register even personal protective equipment distributed daily such as gloves with the PPE Handover Report.
- Particular attention should be paid to comfort and measurement compliance when using PPE. Care should be taken to ensure that the correct PPE size is selected.
- PPE will be kept clean and properly maintained.
- Defective PPE will be removed immediately and the employee will be given a new PPE.

Head Protection

The main type of head protection is the helmet, which can protect against falling objects or hard objects from impacts. Head protection should be used where the mandatory sign for head protection is shown. Activities that may require the use of helmets are as follows (not limited to these examples);

- Excavations.
- Working at height
- Technical Quarters and work areas where there may be a risk of head impact, etc.

Head Protection Usage:

- Adjust the headbands to fit, all straps should be fully seated but not too tight.
- Use a absorbent sweat-holding strip. Clean and replace the sweatholder strip regularly.
- In windy conditions, especially in high places or where the helmet can fall easily, wear a helmet strap and ensure that the straps do not pass through the ears.
- Store in a cabinet or on a hanger hook. Do not store in places with direct sunlight, such as the rear window of a car, or in a warm environment, as this will damage the helmet.
- Inspect the helmet regularly for signs of damage or deterioration.
- Replace if the shell takes a serious hit, deep scratches occur, or if visible cracks are found in the shell.
- Clean regularly with soap and water. Do not use a solvent or astringent cleaning material and avoid contact with paints and adhesives.
- Replace the helmet after continuous use for three years (the inner harness will be replaced after one year of continuous use).

Eye/face protection

- Face protection will be used if the eye or face is vulnerable to the dangers of flying objects, access metal, liquid chemicals, chemical gases or vapors, electrical "hot" processes or light radiation that has the potential to cause injury.
- In terms of eye protection, these equipment will not have any negative impact on the performance of the employee or increase the health or safety risk to the employee in other ways.
- Eye and face PPE will be marked prominently to facilitate the identification of the manufacturer.
- All personnel working in areas where there is eye danger will be trained by JHSU, which is provided with services on the need and use of eye protection.
- Protective goggles will have side protection, removable side protectors are acceptable.
- Protective goggles will be properly protected in a clean and fully usable condition.
- The welding heads will include filter lenses with a suitable eye shield number for the work carried out for the purpose of protection from harmful light radiation.
- The use of photo chromatic protective glasses (glasses that change color when exposed to sunlight) will not be allowed to protect against light radiation, which has the potential to cause injury due to its slow change properties.

Foot Protection

Protective shoes protect against punctures, impacts, electric shocks, static sparks, chemical contamination and flammable substances.

- In each study included in the "Work Permit System", protective shoes with metal nose or composite nose will be worn in accordance with the risk of the work done.
- Non-conductive foot protection will be worn when the employee's feet are vulnerable to electrical hazards.
- Due to the risk of slipping on slippery surfaces, non-slip and studded boots will be worn at all times.
- Electricians will be given non-conductive protective shoes.

Reflective Vests

- All subRECs subject to the Work Permit System will wear reflective vests.
- Reflective vests will be kept clean. Reflective vests contaminated with grease, oil or other chemicals will be disposed of in accordance with the MAOG waste management plan.

Hand protection

Hand protection can protect hands from damage caused by cuts, abrasions, extreme temperatures, bumps and contact with dangerous chemicals. Activities that may require hand protection are as follows:

- Manual Handling
- Construction and outdoor work.
- Transportation of hot and cold substances and work requiring contact with bare flame or welding.
- Transportation of Chemicals
- Working with grinders-like power tools.



The selected glove should be able to provide appropriate protection against hazards during use, be comfortable and sit in the user's hand without significantly reducing grip strength and dexterity.

Gloves should be inspected for cuts, tears or wear before use. Damaged gloves must be disposed of. Gloves contaminated with chemicals should be washed before disposal.

Ear protection

Ear protection should be used to protect against noise-inaudible hearing loss where the mandatory mark for ear protection is shown and in areas where personal exposure exceeds 85dB (A).

Activities that may require the use of ear protection are as follows:

- In case your ears ring when you have to shout or raise your voice to be heard from a distance of two meters, or when you have completed the work. If you work in such an environment, contact your supervisor to assess your noise exposure and the need for ear protection.
- Grinding, cutting and milling with power tools and equipment.
- Engine test cells, generator and compressor areas.
- Three types of ear protection can be used; ear sleeves, helmets with headphones and plugs. Ear protection should be installed correctly, be comfortable, be suitable for user and activity carried out and be in good condition.

The following advice should help achieve this:

- Ear protection should always be installed in the specified places. Short-term removal of ear protection in extremely noisy areas can significantly reduce the amount of protection provided.
- Ear sleeves should ensure that the ear remains in isolation and that the crown part is fully in contact with the head. Thick-sleeved glasses with headphones should be avoided as they can significantly reduce protection. Headband tension should be high enough to be comfortable.
- Earplugs should be installed if used with thick glasses frames due to the reduction of the effectiveness of the sleeves.
- Sleeves with damaged or hardened insulation, twisted or low-voltage headbands or missing ear pieces should be replaced.
- Sleeves and earplugs should be washed with warm soapy water and kept clean.
- Where protective helmets are required, sleeves or earplugs attached to the helmet should be used.

Respiratory Protective Equipment

Respiratory protective equipment (RPE) can be used to protect against inhalation of hazardous substances (dust, fibers, gases, vapors, fumes and mists) and/or as a breathable source of air in under-oxygenated atmospheres. Respiratory Protective Equipment should only be used by trained persons. There are two main types of RPSs:

- Air purifiers that filter pollutants in the air before being inhaled by the user. There are two types of air purifiers – disposable filtration masks and electric helmet/shield masks. These devices are not used in low oxygenated atmospheres.
- Air supply devices that provide non-polluted air for inhalation from an independent source.



RPE selection should be based on risk assessment. In this assessment, the types and concentrations of contaminants, the level of activity, the working environment, the form of the user and the length of the installation time should be taken into account.

Training

PPE training will be given to every employee who needs to use PPE. The content of PPE training will include but not be limited to:

- When PPE is required
- What PPE is necessary;
- How to install, remove, adjust and wear PPE correctly.
- The boundaries of the PPE.
- Proper care, maintenance, service life and disposal of PPE.
- Where re-education is required, the following are listed but not limited to:
 - Changes to the workplace will override the previous training.
 - Changes to the type of PPE used will override the previous training.
 - Inadequacies in the knowledge and use of the PPE given by an affected employee indicate that that employee has not acquired the necessary comprehension or skill.

PPE-trained personnel will demonstrate their understanding of the training and usage skills of the use of PPE before performing any work that requires the use of PPE.

Work-Based Personal Protective Equipment Matrix

- It is mandatory to use a safety helmet during operation, it will protect employees from impacts, falling objects and possible electrical contacts.
- Sound protectors should be used in noisy areas required by the regulation by measuring the environment.
- During welding, welder mask is mandatory, protects the eyes from ejects and prevents face injuries.
- Welding goggles are mandatory in electrical sources, protecting the eyes in autogenous welding and oxide cutting works.
- The use of work glasses is mandatory in dusty environments.
- In environments where there is a risk of impact, the use of work glasses is mandatory.
- In accordance with the Material Safety Data Sheets, half-face/full face masks required by the relevant chemicals should be used.
- Work clothes should be worn to protect against cold, sun, burning, eruption.
- In areas where visibility is low, work clothes with reflective fabric should be worn.
- When it rains, water-resistant work clothes should be worn.
- A front lamp must be installed to go to the work place via line or unlit roads.
- Full body harness should always be worn to anchor to the lifeline or to the points that are securely fixed, and for free fall work.
- For soldering work, leather aprons should be worn to protect the body from sparks and burns.
- Work gloves suitable for general use should be worn in the use of materials.
- Work gloves with thin rubber should be worn for concrete and brick, plaster, lime etc. work.
- Dielectric work gloves should be worn for electrically risky tasks.
- In soldering work, soldering gloves should be worn.



- In rainy weather, waterproof boots should be worn, boots, cane should have a sufficient height.
- Welder leggings should be worn so that the feet are not exposed to sparks in welding work.

7.3.4. Confined space

Confined spaces are closed or partially confined space with restricted access or exit, which can become life-threatening environments by creating a trap due to its potential for dangerous environment.

Such areas are not usually designed or intended for the discovery of humans. These areas include large pipelines, tanks, boilers, separators, silos, canals, sewers, pits, holes, chimneys, manholes and cavities. These places can also be places where hazardous waste can accumulate and ventilation may be inadequate, that is, excavation sites, trenches (usually more than 1.2 meters deep), cessation pits, rolling holes and culverts, or otherwise under-ventilated areas.

Only trained personnel will work in confined space and the Occupational, Health, Safety and Environmental Management Plan (HSEP) will be complied with.

-Manholler	-Sewage plants
-Tunnels	-Wells
-Ducts	-Canals and similar structures
-Water storage tanks	-Cargo tanks
-Tankers	-Ship boarding gaps entered through a
-Boilers	small warehouse
-Pressure vessels	-Oil tanks
-Silos and other compartment tanks	-Waste tanks
-Open gaps such as deep pits and hollows	-Pipelines

General Training

Ronesans ensures, all employees who perform the activities defined in the closed area document

in accordance with their functional duties and responsibilities, it enables them to receive indoor training that will enable them to acquire the understanding, knowledge and skills necessary for the safe fulfillment of their duties in confined space. This training content is created by the Ronesans HSE unit to cover the following items as a minimum.

These are;

- Disclosure of general hazards and risks of confined space (restricted areas),
- Discussion of special indoor hazards related to the project, area or operation,



- Requirements, technical specifications, appropriate use and limitations of personal protective equipment (PPE) and other safety equipment that must be used to enter confined space,
- Disclosure of work permits and other procedural requirements (EIA, etc.) that must be obtained before entering the closed area,
- To make a clear definition of which conditions or situations will prohibit the entry of confined space,
- How to manage emergencies, communication methods and how to alert / inform the people entering for the evacuation of the area,
- Duties and Responsibilities
- Hazardous Energy Control Procedure – LOTO applications,
- Duties and responsibilities of employees, scouts, rescue workers and officials managing the work permit process within the closed area,
- It is the identification of symptoms, how to recognize and how to warn the employees themselves and their teammates that there is an overexposedness to possible air pollutants in the confined space.



In projects / enterprises, closed area trainings are renewed when there are deviations from the closed area requirements defined in this document or when inadequacies are detected in the employee's knowledge or use of this document.

Specific Training

The expert training content of gas measurement includes the correct use of monitoring tools, including instructions on the following items.

Features of use of the equipment:

- Calibration of equipment
- Sampling strategies and techniques
- Explosion limits (PELs, TLVs, LELs, UELs, etc.). (Table 1)

Minimum requirements for on-duty training contents:

- Procedures for calling rescue or other emergency services,
- Correct use of equipment used to communicate with entry and emergency/rescue personnel.

In the project, indoor rescue personnel and/or emergency response teams are trained in the following topics. These are;

- Search and rescue personnel have all the necessary skills and knowledge about the use of personal protection equipment and rescue equipment necessary to perform rescue in enclosed spaces.

- Search and rescue workers also receive general indoor training.

- Search and rescue team members record by carrying out exercises together with mannequins or real indoor employees in line with the annual indoor rescue scenarios created in the project/operation.

- At least one of the search and rescue team members will have received basic first aid training (certified first aider, etc.).

- The contents of the procedure developed for the recovery plan and all types of enclosed spaces expected to be encountered,

- Use of emergency recovery equipment,

- First aid and CPR techniques and

- Workplace and indoor configuration training to minimize response time.

Ventilation equipment

Where there is dangerous air and/or lack of oxygen, mandatory air exhaust ventilation is used to eliminate hazardous atmospheres before employees enter confined space. Compressed air is directed to ventilate the vicinity of the areas where the employees are located. In addition, the ventilation system ensures that the employees continue to work for the duration of their time in the closed area. Air support is from clean source and will not increase hazards in the field.



Communication System

Radios, portable phones, alarms or other suitable devices where indoors allows can be used for communication devices.

Respiration Protection

Breathing air "BS EN 529: 2005 – Compressed air for inhalation assemblies. Guide Documents for Selection, Use, Maintenance and Repair".

BS EN 12021:1999 – Respiratory protective devices. Compressed air for inhalation devices.

General PPE used indoors:

- Head protectors (Protective helmet)
- Ear protectors
- Eye - Face Protectors
- Respiratory System Protectors:
- Air Fed Breathing Apparatus
- Self-Contained Compressed Breathing Apparatus (SCCABA, BS EN 137:2006)
- Body Protectors
- Anti-fall equipment (with all necessary accessories)
- Equipment that can hold the body in space (paratrooper belt):
- Dustproof clothing
- Gas-proof clothing

Emergency Equipment

Rescue equipment to be determined in the closed area as a result of the JHA / Risk Assessment to be carried out by Ronesans HSE units before the closed area works is kept ready in the area. These equipments are selected from the general list listed below. These are;

- Self-cleaning air-fed respirator (SCCABA)
- 5-minute respirator (SCCABA) 2 pcs
- 30-minute respirator (SCCABA) 1 piece
- Paratrooper type dual-lanyard seat belt (If there are pipes or other obstacles to prevent exit in the closed place, the necessity of using a seatbelt is reassessed).
- Radio / siren ("G" type)
- Stretcher (Note: The appropriate stretcher selection is made taking into account indoor features and recovery scenario.)
- Life line
- Ladders
- People entering the closed place; if there is no exit 1m or lower from the ground indoors, they should wear a chest seatbelt attached to the 225 kg crane. In addition, if it is defined in the risk



assessment studies, they are expected to carry the oxygen and motion sensor (if the employee does not appear) with them.

- Fire Extinguisher
- Three-foot (Tripod) + mechanical crane

7.3.4.1 Hazards

The following list describes hazards in limited areas:

- Toxic substances, hydrogen sulfate, benzene and hydrocarbon gases
- If the LEL (Lower Explosion Limit) value is 10% higher in areas with combustible gases or if hot operation is required, the LEL value is higher than zero,
- Less than 20.9% of oxygen
- Nitrogen suffocation
- Oxygen-rich environment: more than 23% in volume
- Flammable gases from electric shock or electrical equipment/appliances
- Injuries caused by unexulated mechanical instruments.
- Body injuries caused by direct contact with a corrosive or irritants

7.3.4.2 Controls

- There will be no indoor work without a valid work permit. In the event that there are multiple jobs requiring other work permits such as working indoors in a high place, working in a closed area or other high-risk activities, the procedure of each work will be followed separately with the limited space entry procedure.
- A risk assessment and emergency evacuation plan are required before entering the enclosed area. These documents will be prepared by the subREC and approved by REC MAOG Project Management.
- All confined space will be marked.
- The Approved Gas Tester will measure the level of oxygen and toxic gases before and during entry and these measurements must be recorded.
- The body system will be implemented: people will look out for each other, there will be no work alone.
- The "Observer" assigned when someone is in the area will always be present and will be outside the enclosed space. This person will immediately call for help if necessary and inspect and monitor the enclosed space to prevent the presence of gases or other hazards such as possible ditch collapse due to excessive groundwater.
- If necessary, the person entering the closed area will be attached to the lifeline.
- Entry will not be allowed if any of the hazards contained in the closed area work form are present.
- Compressed gases will not be allowed in any enclosed space.



- In cases where flammable gases or vapors are clearly under 10% LEL, no entry will be made if the team has not received indoor entrance, fire extinguishing, first aid, self-sufficient respirator training and does not have the necessary equipment.

7.3.4.3 Measures

The list of confined space, method declarations (which describes all the details of the work to be done), closed area contingency plans, equipment in accordance with the method declarations and personal protective equipment should be provided.

- Indoor work should only be carried out in mandatory situations and when there is no safer way.
- A document should be written explaining the requirements/responsibilities of the team working indoors and the recovery plan. This document should be reviewed and understood by everyone involved in the study.
- Risk assessment should be carried out, indoor energy sources should be isolated, air quality in the closed area should be measured/verified at appropriate intervals depending on the activity. Appropriate respiratory protection equipment should be selected and a full-time lookout should be assigned.
- Before starting work, the Occupational Hazard Analysis (JHA) should be prepared and the dangers of the work should be conveyed to the employees.
- This work must take place within the scope of the work permit. The Work Permit Form must be kept, visible and removed when the work is completed. The leave period must not exceed 1 day and must be linked to the relevant risk assessment.
- A closed area entry control system must be installed through markings, indicators, labels and locking. Authorized persons or scout personnel should be present in the workplace during the closed area work and ensure that adequate communication tools are used. Unauthorized entry must be blocked by barriers and safety signs.
- After the completion of indoor work, all employees must leave the enclosed area (it must be checked by the indoor area officer using a checklist).
- Hoses belonging to pressurized gas cylinders should never be left in a closed area after work has stopped.
- Functional, calibrated personal or fixed atmospheric monitors/monitors should be used continuously to monitor the level of oxygen, flammable gases and other toxic gases (O₂: 19.5% - 23%, LEL < 10%, CO < 50ppm, H₂S < 10ppm) during indoor operation. In addition, an



authorized person should periodically carry out gas testing and record measurements before and during work in the closed area.

- An emergency team must be specially trained and equipped (seat belt, tripod, respiratory protection system, emergency mask, etc.) to rescue people in confined space in a short time. This team information must be specified in the closed field work permit form or in the recovery plan.
- Indoor electrical equipment must be selected as low voltage (24V) and explosion and burn resistant (ex-proof).

Safe entrance and exit to the area should be present, barriers and warning signs should be placed in the area.

Adequate ventilation and lighting should be provided, gases and liquids in confined space should be disposed of before starting work.

Before starting to work, oxygen, carbon monoxide, carbon dioxide and explosive environment measurements should be made in the area According to the criteria of holding indoor environment measurements, calibration should be measured by the appropriate device and work permits should be given if appropriate.

Flammable materials should be removed and welding cutting equipment should be checked.

The indoor area should be free of liquid leaks and labeling/locking (LOTO) should be applied.

Rescue equipment should be available around the area and personal protective equipment should be used by employees.

There should be observers outside and a first aid certificate.

All communication channels must be open and work.

After work, the work area should be left clean and the equipment removed.

7.3.5. Permit-To-Work

The REC MAOG Project will run an approved Work Permit system to control and manage certain hazards during the work. The purpose of this system is to create a safe working environment by providing management control over various activities that have potential for danger.

The system requires the implementation of a controlled sequence of security measures with the participation of appointed competent and responsible persons. In addition, the Work Permit system is to ensure that responsibility and accountability for the safe working practice are transferred in a logical sequence to the persons responsible for the work, as well as ensuring that adequate protection measures are taken.

The work permit will be issued for the period during which the work must be done. If dangerous or harmful factors that are not covered in the work permit arise during the work permit, the work will be stopped and the work permit will be canceled. The remaining jobs will only be restarted



upon granting a new work permit. The person is isuring the work permit will monitor the compliance of the works with the safety requirement as specified in the permit in question.

Other activities other than those defined in the Work Permit Procedure, which will be published as a separate procedure, will be decided on whether they are subject to Duty Risk Assessment, Occupational Safety Analysis or other hazard identification and management techniques and work permits in force. All work permits will depend on the risk assessment and the permits will have validity periods. Details and applications will be defined in the Work Permit Procedure.

Regardless of this identification and evaluation procedure, work permits will control the following activities:

- Working on the Roof
- Bored Pile Studies
- Scaffolding Installation-Dismantling Works
- Works at Night
- Lift Operations
- Excavation works
- Hot works
- Working indoors
- Working in Shaft-Elevator Shafts
- Working at height
- Working in the attic
- Cold Works

7.3.6. Fire Prevention

7.3.6.1 Introduction

This section provides guidelines, instructions and requirements for fire hazard control. The subREC is responsible for complying with fire prevention requirements in its own problem area and during the activities of subREC personnel under its management. The REC MAOG Project will have an existing Fire Prevention Procedure. The REC MAOG Project will provide instructions to its own personnel and subRECs regarding the use of fire extinguishing devices.

7.3.6.2 Purposes

The fire prevention program will be based on five objectives:

- Preventing Fire
- Early Detection
- Controlling the spread of the fire
- Immediate extinguishing of the fire
- Immediate and regular evacuation of personnel to a safe place



7.3.6.3 Prevention of Fires

The following applications will be followed:

- Regular cleaning of rubble and after-work waste
- Regularly inspecting workplaces and buildings in detail to identify and eliminate fire hazards or potential fire sources
- Safe storage, transportation and use of combustible materials

7.3.6.4 Detecting and Controlling The Inconsments

Early detection of fires will significantly reduce the damage to the surrounding area. Therefore, all personnel will be constantly vigilant about the detection of fires and any fires will be treated seriously.

- REC MAOG Project and subRECs will provide a sufficient number of fire extinguishers of the right types and sizes.
- Fire extinguishers will be deployed in strategic locations.
- Fire extinguishers will be made easy to see.
- The locations of fire extinguishers will be clearly stated in the site diagrams.
- All fire equipment will be inspected at regular intervals.
- All electrical panels will have 30 milli amp current relays. In ADPs, they will have Toroid role systems.
- Emergency exits and walkways will never be closed.

7.3.6.5 Fire Extinguishing

Firefighting often involves assessing critical issues best applied by trained firefighting personnel. However, it may be necessary to keep the fire under control until firefighting personnel decide on the most accurate extinguishing method. The level of training to be given to firefighting personnel at the site depends on the decision of the construction site manager whether the road to be monitored in fire response will be active intervention or passive intervention.

7.3.6.6 Reporting the Fire

Anyone who detects the fire will immediately alert all nearby personnel and immediately follow the published instructions for reporting the fire. Emergency phone numbers for reporting fires will be shown and recommended specifically to construction site staff in initial training.

7.3.6.7 Fire Watchers

Continuously trained fire watchers will be supervised at the site and will check that possible flammable/flammable materials are regularly stored/stacked in their workplaces.

In the event of a fire, the nearest supervisor will be responsible for all emergency fire suppression or containment until the assigned fire watchmen arrive.



7.3.6.8 Fire Extinguishers

Adequate and easily accessible fire extinguishers will be provided at the site. There are normally three types of fire extinguishers in construction sites: types containing water, carbon dioxide and dry chemicals. SubREC personnel will be familiar with the firefighting equipment at the site and will be informed about their use.

Carbon Dioxide Type Fire Extinguishers

Carbon dioxide (CO₂) type fire extinguisher is normally used to extinguish electrical fires. These fires occur in engines, switch boards and similar places and are very easily controlled by cutting the circuits that provide energy. The advantage of using CO₂ in this particular case is that it leaves no residue in the mechanisms of electrical equipment and therefore does not cause further damage.

WARNING: CO₂ fire extinguisher **should never be used** in confined space where people are inside due to the displacement of gas with oxygen in the immediate environment. The decrease in the oxygen level in the environment enough to extinguish the fire also means that the oxygen level will not be enough to support human life.

Dry Chemical Type Fire Extinguisher

Fire extinguishers containing dry chemicals are normally used to control Class B fires caused by flammable liquids. Fire extinguishers containing dry chemicals normally come as portable devices of sizes of 6 kilograms and 9 kilograms. Larger, wheel-carrying fire extinguishers are also available; however, they are usually found only in oil-powered areas. Today, fire extinguishers containing some dry chemicals contain dust that can control class "A", "B" and "C" fires. This multipurpose ABC powder gives certain fire extinguishers a good chance to contain any type of fire, including wood, petroleum liquid or electrical appliances.

Pressure water

If a pressurized water system is available at the site, the subREC will be responsible for supplying hoses and hose mouths. Since most fires in construction areas contain Class A materials, it is possible to extinguish them with water. Hoses that are kept for this purpose and ready for use are a necessity.

7.3.6.9 Use and Storage of Combustible Materials

It is a necessity to reduce the risks arising from the storage of Hazardous Substances in closed places by eliminating or minimizing the available quantities of these substances at work and by providing protection against predictable accidents. It is known that flammable liquids are used for practical purposes and a limited amount of storage is needed in the workplace. It will be the responsibility of the relevant supervisor to justify the amount of flammable liquid that needs to be stored in a work area when performing the risk assessment.

In general, combustible, flammable or similarly classified materials will be stored as far away as possible from potentially combustible sources. The product will be used with reference to the



measures to be taken for the use and storage of MSDS flammable substances. Some general rules for the use of flammable substances are as follows;

- Be sure to read the product MSDS before using hazardous chemicals.
- Always wear appropriate Personal Protective Equipment (PPE) and a respirator (if necessary) when using flammable material.
- Never use flammable liquids or solids in potential combustion-induced areas, paying attention to steam or dust moving within combustion distance.
- Always eliminate or disable potential combustion sources if there is enough steam or dust in the air to cause infiltration.
- Potential combustion sources; includes pilot lamps, stoves, electric motors, thermostats, matches or lighters, cigarette lighters, hot light fixtures, hot plates and electric heaters and others.
- Avoid heating flammable liquids unless necessary for controlled testing or application.
- Do not cause steam or dust to come out.
- Ventilate flammable material storage areas.
- When using flammable material, always keep a fire extinguisher and fire blanket soon and make sure that the fire extinguisher is suitable for the materials used.
- Never smoke in areas where flammable substances are used or allow others to smoke.
- Store flammable materials outside busy traffic areas to prevent damage to containers and eliminate the possibility of scattering or spreading.
- Material storage within warehouse facilities will always be according to perfect usage standards. Flammable material packages will be left in a safe place when not in use.
- Flammable liquids will not be stored or distributed in public, warehouses or areas where heaters, cooking appliances, open electric motors or flammable sources where welding or cutting operations are performed.
- When flammable substances are not in use, they will be stored in well-ventilated areas that are not exposed to sunlight.
- Storage of paint or paint materials will be in original closed boxes and isolated from other substances.
- In addition to the liquids used in tanks or devices for the purposes mentioned as cleaning parts, combustible liquids stored in any building will not exceed a total capacity of 50 liters.
- Flammable liquids will be limited to the amount needed in the field of study.
- Barrels, boxes and other combustible liquid containers will be tightly closed except when filling is unloaded.
- Personnel who come into contact with flammable substances while performing their duties will be thoroughly trained about the dangers of these products.
- Garbage, brushes, long grass or other flammable consumables will be immediately removed from areas where flammable substances are found and stored.
- "NO SMOKING" will be placed in the storage area and its surroundings, and the transport of open light, matches, lighters and the like will be prevented.

Hot Work Permit



Before starting any hot working activities, the environment and the remaining work area below will be inspected by the person responsible for the hot work to prevent sparks, access metals or flammable substances from falling on workers.

All mobile fire hazards, e.g. All flammable and flammable materials and waste within 7.5 meters will be removed and a fire extinguisher will be kept within 7.5 meters. If these conditions cannot be met, hot work will not be allowed.

Hot operation will not be allowed in the following cases;

- Explosive atmosphere, flammable gas mixtures, vapor, liquid or airborne dust environments.
- Explosive atmosphere in tank interiors prepared in areas containing pre-mentioned materials or containing danger with the accumulation of flammable dust.
- In areas near large quantities of materials exposed to ready-made flammable substances.

Culverts, drains/ drainage/sewerage systems, ducts and conveyor systems that can carry sparks to distant combustible substances will be properly closed, protected or cancelled.

When hot processes are carried out in walls, partitions, ceilings or roofs made of combustible material, fire blankets will be provided to prevent burning.

Welding operations will not be carried out on metal sections, walls, ceilings or roofs in combustible coating or combustible sandwich – type panel compartments.

Cutting or welding on pipes or other metals in contact with the combustible wall, partition, ceiling or roof will not be allowed if they are close enough to cause combustible burns as a result of transmission.

7.3.6.10 Types of Hazards

7.3.6.10.1 Electric Fire Hazards

Employees to prevent electrical fires:

1. The use of kettles is prohibited except in designated areas. Equipment that needs to be charged should only be charged in areas designated by project management. Co2 fire extinguishers should be kept in charging areas against electrical fires.
2. Ensure that worn cables are replaced.
3. Only appropriately rated fuses should be used.
4. Extension cables or backups will never be used for wiring expansion.
5. Only approved extension cables will be used.
6. Wiring will be checked in hazardous areas where the risk of fire is especially high.
7. Electrical equipment will be checked to ensure that it is properly grounded or double-isolated.
8. When performing maintenance, it will be ensured that the appropriate gap has been given.

7.3.6.10.2 Fire Hazards Resulting From Office Works

Employees to prevent office-related fires:

1. It will turn off unnecessary electronic equipment at the end of each working day.



2. It will de-litter the storage areas.
3. It will ensure that the extension cables are not passed under the carpets and through combustible materials.
4. It will not allow the accumulation of garbage and paper waste, which is reserved for recycling.
5. The use of heaters (electric stoves, etc.) in offices and warehouse areas is prohibited.

Types of Flammable Substances

Class A flammable substances:

1. General flammable substances (wood, paper, fabric, rubber and plastic) that act as fuel and outside special areas such as offices are included.
2. To safely use class A flammable substances:
 - Dispose of waste on a daily basis.
 - Dispose of garbage in containers reserved for household waste, do not mix it with other waste.
 - Keep workspaces clean and tidy.
 - Keep flammable materials away from sources that may burn accidentally.
 - Do not order excessive quantities of flammable substances.
 - Water is an approved fire extinguishing agent for multipurpose dry chemicals (ABC) Class A flammable substances.

Class B flammable substances:

1. These include combustible and flammable liquids (including oils, grease, tar, oil-based dyes and varnish), flammable gas and flammable aerosols.
2. To safely use class B flammable substances:
 - Do not drain or fill class B flammable liquids without grounding them.
 - Store, keep and use class B flammable materials only in approved areas where steam, heater or electrical equipment, open flames or mechanical or electrical sparks are blocked.
 - Do not use flammable material as cleaning material in the building (the only exception here is cleaning in an approved closed machine for cleaning with flammable liquids).
 - Do not use, keep or store class B flammable substances in outlets, stairs or areas normally used as outlets.
 - Do not boil, cut, grind or use unsafe electrical appliances or equipment alongside class B flammable substances.
 - Do not allow heat, open flame formation and smoking next to class B flammable substances.
 - Know the location of the nearest B-rated mobile fire extinguisher and learn how to use it.

- Monthly control labels will be used to show the status of fire extinguishers and inspection dates. The control label will indicate the suitability of the type, pin, valve, pressure and hose of the fire extinguisher.
- Damaged, defective or empty fire extinguishers will be repaired or refilled in a timely manner.



- All offices, canteens, cabins and the like will have certified fire extinguishers.
- Extinguishers will be stored fully loaded and operational and will always be kept in their allocated locations when not in use.
- Fire water hoses will be on reels to facilitate use and storage. To protect them from weather conditions, they will usually be installed inside the building. They cannot be used for other purposes, such as washing.

7.3.6.11 Chemical Management

Transportation of Chemicals

1. The transporter must be informed about the risks of the chemical.
2. The transporter must wear personal protective equipment (PPE) according to the risks of the chemical.
3. Each worker must properly store and/or transport the chemical.
4. When transporting chemicals, they should avoid overloading and be carried by little amounts.
5. Different groups should not be moved together. Chemicals; they should be transported and stored separately as organic, inorganic, oxidizing, reductive, acid, base and flares.
6. No other persons should be allowed in the elevator when transporting chemicals by elevator.
7. Do not take chemicals to smoking sections and never place them on work desks.
8. Chemicals should not be carried in the lap or by hand, but should be transported by wheeled and edge-assisted freight transport cars.
9. Cardboard v.b. should be used as a support around it to protect glass bottles and jars from breaking. Bottles containing chemicals should not be carried by holding them by the neck in any way.
10. Gas cylinders must be in a closed position.

Safety Measures,

1. Never make untrained persons do things like boxing, transporting, storing chemicals.
2. All chemicals prepared within a maximum of 5 years, current and Turkish MSDS will be supplied during the purchasing process. In addition, the Chemical Substance Inventory List, which will be filled by SubRECs and controlled by MAOG HSE, should be kept in all areas where chemicals are stored and used.
3. Never drain chemicals into general drainage (sink,.b etc.).
4. Don't leave any chemicals unattended.
5. Clean the perimeter before removing and/or transporting the chemical.



6. Wear appropriate Personal Protective Equipment before you start working.
7. Warehouse media, chemical warehouses should preferably be "dark, moisture-free and cool", and this should be taken into account in warehouse planning. Due to the fact that they cause deterioration and/or dangerous interactions of some chemicals of sunlight and humid environment, care should be taken to ensure that the humidity in the tanks is appropriate.
8. The tank temperature should be between 18-20 °C. Warehouse humidity must be between 30% and 60%.
9. The warehouses where harmful chemical materials and products are placed are prepared to benefit from the necessary heat, insulation, lightning protection, ventilation, alarm, fire extinguishing, taking into account the damages that the stored substance may cause.
10. Shelves are fixed to the floor and wall in case of falling.
11. They should be stored in the places such as combustible and flammable liquids, fire-proof cabinet, shelf, etc.
12. Shelves, sections are labeled by specifying hazardous substance class symbols.
13. Chemicals are clearly labeled in Turkish.
14. The solutions made have the appropriate danger signs and name on them.
15. Warehouses and cabinets are labeled according to the danger posed by the substance contained in them.
16. It is forbidden to have an electric heater in the warehouse.
17. The storage floor should preferably be planned from stone or concrete material and inclined inward. This situation is necessary to prevent the leakage of a substance spilled on the warehouse floor.
18. The use of electrical appliances in chemical warehouses should be avoided as much as possible.
19. Some chemicals require storage in the cold, some in a dry, some in a humid environment, others in such a way that they do not receive light. These substances are sold by the selling institution under favorable conditions. These conditions should be known during use.
20. It is absolutely not recommended to transfer some chemicals from the original bottle to another bottle, and this bottle is written on it. On the other hand, if the chemical needs to be transferred from the original bottle to another bottle, the new bottle must be properly labeled and mandatory packaging mark labels should be affixed.
21. Chemicals that should be used outside the method declaration must be obtained for use with the change request form within the scope of OHS Change Management Procedure.

If at least one of the following possibilities is evaluated, the relevant Department Manager must meet with all relevant departments and the HSE department by the SubREC Project Manager



(defined as the Change Leader in the procedure), determine and complete the actions and then make the change:

Situations That Require Change Management:

2. Use of equipment / chemicals not defined in the method declaration
3. Doing the work not defined in the method declaration
4. Planned revisions to existing equipment (machine protector, warning systems, CE marking, etc.)
5. Introduction of equipment / chemical in another area defined in the method declaration
6. Revision of operating instructions
7. Changes that will affect the fire detection or extinguishing process
8. Changes that can have an impact on emergency management (personnel, equipment, escape routes, fire/evacuation alarm, safety and eye showers, etc.)
9. Situations that can create exposure (chemical, dust, biological, noise, radiation, etc.)
10. Changes that can affect physical conditions (ambient temperature, ventilation, lighting, etc.)
11. Situations that may affect chimney emissions
12. Situations that can lead to soil or groundwater pollution
13. Situations that can create environmental noise (increased traffic, public disturbance, etc.)
14. Situations that may affect waste production, water use or wastewater discharge
15. Situations that will affect compliance with legal regulations
16. Situations that require the appointment of personnel of different competencies than the current situation

Storing Chemicals

1. Cabinets with chemicals are kept locked.
2. Unauthorised persons cannot open the lockers.
3. The chemical cabinet should be in a dark and cool environment.
4. The temperature of the cabinets should be checked. Ambient temperature should be between 18 – 20 C.
5. When storing the items, the conditions recommended by the purchased company should be taken into account. It is stored as much as possible in its original packages, boxes, etc.
6. Shelves in cabinets should be heat resistant.
7. Shelves are fixed to the floor and wall in case of falling.



8. When rotting substances are placed on the rack, the rack should be covered with a sticky protector.
9. If there are unopened bottles of the same type of chemicals on the shelves, the bottles should be placed behind each other.
10. If possible, shelves above the head height are avoided. If chemicals have an obligation to be stored above this height, there is a ladder, and bottles in this area should be large enough to be removed with one hand.
11. In cases where the chemical to be used is dangerous, the amount of the purchased substance must be in accordance with the period of use. Where storage facilities are limited, frequent purchases should not be made.
12. All chemicals have a production date and expiration date on them. Chemicals must be stored for use before their expiration date is near.
13. Shelves should be labeled with hazardous material class symbols.
14. Chemicals are clearly labeled in Turkish. The solutions made have the appropriate danger signs and name on them.
15. If the stored and used chemicals are fuel, 1/3 of their volume and other chemicals will contain at least 1/4 of their volume and chemicals and chemicals will not react, the storage of chemicals in chemical pools should be stored in the same way and an emergency spill kit containing at least 1/4 of the chemical stored or used should be kept. Emergency spill kits should be specific to infected rashes, chemicals, oils, according to the type of rash, and should include absorbent sausage, pillow, pad, dustpan, gloves, EN standard mask based on chemical vapor, glasses, waste bag and telescopic handle brush.

Labeling chemicals

1. Labeling of every chemical substance in the warehouse is mandatory.
2. Labels should be pasted so that they do not come out easily, and should be written clearly and clearly readable.
3. The label must contain the date of purchase of the chemical, the class and code determined in accordance with the warehouse layout.
4. Chemicals whose original label has been torn, contaminated or damaged in similar ways must be relabeled and the prepared label must contain information that should be contained on the original label (information such as the explicit name, content, storage conditions and danger mark of the chemical, etc.)
5. Secondary chemical bottles should be properly labeled. The name of the chemical, the class of danger, its concentration, the name and surname of the preparer, the date should be written.



6. Labels of chemicals that are capable of creating peroxide should include the date of purchase of the chemical as well as the total and maximum period of use in which it was used
7. The labels of chemicals that have the ability to create peroxides should also specifically say, "Must be destroyed within a month from the date of use (3/6 or 9)."
8. Shelves should be labeled with hazardous material class symbols.
9. Chemicals are clearly labeled in Turkish. The solutions made have the appropriate danger signs and name on them.

7.3.7 Electrical Safety

Electricity can be classified as one of the most dangerous potential risk areas available in a construction site. In the context of electrical safety, construction sites constitute one of the most challenging environments.

The majority of work is done outdoors in all weather conditions, which increases the risk and possible severity of the shock. As the works progress, construction sites are constantly changing and construction activities can result in damage within temporary structures.

Construction sites are mostly crowded during plumbing works, making it even more difficult to control the risk. At the same time, there may be confusion about which parts of the temporary, existing or new installation have electricity and which parts of the installations are cut off. Temporary site area distribution systems can be used mostly in areas where a large number of people with different needs and expectations and different safety awareness work for different RECs.

30 milli amps of leakage current relays will be used on all panels on the site. In ADPs, Troid roles will be used. Panels and power tools will be checked by authorized persons at least once a month and those deemed appropriate will be encoded with the color code of that month. Extensions on our construction site will be no more than 30 m, board planning will be made according to this principle. All extension cables will be double insulated (in larynx pipe). Equipment such as plugs, piraeians, Boards etc. will be at least IP 54 standard, equipment that does not comply with this rule will be taken off the field.

Therefore, the management of temporary electricity is of great importance and in order to manage each individual involved in the project with the same rules, everyone involved in the project will be subject to the same rules and expectations. In this context, a procedure called the Electrical Procedure has been added to this plan of the works within the scope of the Project with the obligation to comply with all personnel who have been developed.

The SubREC includes Electrical Supervisors, electrician, electrician and electrical technicians.

The duties of the electrical controllers are as follows:

- To carry out electrical connection, connection cutting, maintenance, repair, control etc. in the field according to this document in parallel with the appointment of the E&M Affairs Manager.



- To participate in risk assessments related to electrical works and to implement the risk reduction measures specified in the risk assessment.
- To ensure that the insulation of the hand tools used is suitable and undamaged.
- To meet all the requirements of the work permit before starting work in the work that requires work permits.
- To ensure that the order is sufficient in the field of study, to limit the working area in order to protect other employees against electrical hazards.
- To carry out periodic inspections of all electrical equipment correctly according to these document requirements.
- To keep control records of all electrical equipment he controls.
- Properly attach the color code indicating the suitability of the electrical equipment it controls.
- To report situations that he cannot control to the MAOG Head of Electrification.
- Using work-related dc PPE.

Competency matrix

Position	Professional competence	Experience / age	Technical Training
SubREC Electrician	High School + MEB Apprenticeship Training (Mastery Certificate) or master's certificate / vocational training / qualification certificate issued or valid by the legal authority in the country where they work.	Experience: At least 3 years of electrical operation.	At least 1 day of theoretical and practical training in the field of electrical hazards received from an institution approved by the relevant enterprise in the last 2 years, and at least 1 day of theoretical and practical training from a national/internationally recognized institution related to the control of hazardous energy and LOTO in the last 2 years.
SubREC Electrician / Technician	Certificate of electrical technician / vocational training / qualification certificate issued or valid by the legal authority in the	Experience: At least 3 years of electrical operation.	At least 1 day of theoretical and practical training in the field of electrical hazards received from an institution approved by the relevant enterprise in the last 2



	country of study or graduated from the Department of Electrical Of Vocational High School.		years, and at least 1 day of theoretical and practical training from a national/internationally recognized institution related to the control of hazardous energy and EIA in the last 2 years.
SubREC Electrical Technician	Graduates of the Electrical Department of Vocational Colleges of Universities or electrical technician certificate /vocational training/qualification certificate issued or valid by the legal authority in the country of study.	Experience: At least 3 years of electrical operation.	At least 1 day of theoretical and practical training in the field of electrical hazards received from an institution approved by the relevant enterprise in the last 2 years, and at least 1 day of theoretical and practical training from a national/internationally recognized institution related to the control of hazardous energy and EIA in the last 2 years.
Head of Electrification	Graduates of the Department of Electrical Engineering or Electrical and Electronics Engineering of Universities	Experience: At least 3 years in the field of electricity.	At least 1 day of theoretical and practical training in the field of electrical hazards received from an institution approved by the relevant enterprise in the last 2 years, and at least 1 day of theoretical and practical training from a national/internationally recognized institution related to the control of hazardous energy and EIA in the last 2 years.
E&M Works Manager	Graduates of the Department of Electrical Engineering or Electrical	Experience: At least 5 years in the	At least 1 day of theoretical and practical training in the field of electrical hazards received from an institution approved by the



	and Electronics Engineering of Universities	field of electricity.	relevant enterprise in the last 2 years, and at least 1 day of theoretical and practical training from a national/internationally recognized institution related to the control of hazardous energy and EIA in the last 2 years.
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Authorization Matrix

Position	Group (applies to Turkey)	Operation and maintenance work
SubREC Electrician	Group 3,	500 KW 400 V
SubREC Electrical Technician	Group 2,	1000 KW 35 KV
SubREC Electrical Technician	Group 2,	1000 KW 35 KV
Head of Electrification	Group 1,	1500 KW 35 KV
E&M Works Manager	Group 1,	1500 KW 35 KV

*Regulation on the Powers, Duties and Responsibilities of Electrical Sciences has been prepared in line with Article 4.

For proof of competence and acceptance by the Renaissance, it is imperative that the following be provided.

Professional competence

- An approved copy of the relevant secondary education or higher education diploma or graduation certificate is as if it were the original or original.
- A copy of the relevant vocational qualification or vocational training certificate is as if it were the original or original.

Technical Training:

- It is as if it were the original or original copy of the certificate containing the content, duration, date, participant name, information of the educational provider, or signed by the stamped and authorized person on the letterhead of the educational provider institution, which contains the



same information and confirms that it has participated in the training by the educational provider institution.

Planning electrical works

Risk Assessment:

Risks to electrical work are assessed before work. Although this assessment is not less than the following;

- Electrical equipment to be used,
- Work to be carried out under energy,
- Status and layout of electrical cables,
- Special PPE requirement,
- Grounding requirement,
- Presence of ATEX media,
- Employee competence,
- The presence of underground facilities is taken into account.

Risk management tools related to electrical safety are created in accordance with the content of hol-HSE-PRO-004 Hazard and Risk Management Procedure

Plant Electrical Infrastructure Plans

Infrastructure drawings with all the following details in the enterprise are updated with each change that occurs. These are;

- Transformer settlements,
- Generator locations,
- Locations of electrical main and secondary distribution boards,
- Locations of the main and secondary electricity supply lines,
- Outdoor lighting,
- Faraday cage,
- Existing underground facilities.

The drawings in question will be accessible to the relevant persons and units in the Enterprise.

Registration and Numbering of Electrical Equipment

All electrical equipment supplied or provided by the subREC is numbered according to the registration system defined in the enterprise for recording and tracking, and the relevant number is hung/attached on the equipment. Equipment without this numbering is not allowed for use in the field. The type, brand, model, unit and, if applicable, the location of each electrical equipment used are kept up-to-date in a register.



Safe Working Requirements

General Requirements; Besides general precautions,

- All electrical appliances and electrical outlets are marked to indicate their purpose and voltage
- All businesses have a residual current protection tester and meet the following conditions:
 - The tester meets the EN 61010-1 standard and meets at least CAT III safety requirements.
 - A manufacturer's booklet is provided and all tests are performed in accordance with the manufacturer's instructions.

Ground conductor continuity testing and electrical continuity on all equipment are performed in the following cases. These are;

- Before using the equipment for the first time,
- During the monthly periodic control,
- Before the repaired equipment is sent to the work area for use,
- Before the first use of equipment after a damaging accident.

If the current legislation does not stipulate a safer method, the minimum measurement periods for inspection, measurement and inspection of all grounding facilities during the operation period are given below (Ref: Grounding Regulation in Electrical Installations)

- For electricity generation, transmission and distribution facilities (excluding energy transmission and distribution lines), 2 years
- For power transmission and distribution lines, 5 years
- For industrial facilities and trade centers: o Inspection and measurement of grounding resistances, 1 year o Other inspection, measurement and controls related to grounding facilities, 2 years
- For non-fixed installations: o For fixed operating elements, 1 year o For relocatable operating elements, 6 months
- Inspection, measurement and inspection periods of grounding facilities in workplaces working in wet environments cannot exceed one year.

PAT Test: PAT tests, which are carried out to ensure that the use of electrical devices and equipment are safe, are carried out by the Electricity Officers during the controls carried out every 3 months. The test is performed with a device called the PAT Tester. Device; It is selected to perform earth continuity test, insulation resistance test and functional checks (earth leakage and



load test) of the electrical equipment to be examined. The use of equipment that does not qualify as a result of the PAT test is not permitted.

All electrical hand tools, panels, electrical cables, generators are checked by Electricity Officers no less than once every 3 months, regardless of the legal regulations and manufacturer's instructions in the country of operation. The following checklists are used in the controls. A written control record of each controlled equipment is kept. Electrical equipment that has been checked is coded so that it can be easily seen with the color code of that month.

7.3.8 Workshops and Site Operations

7.3.8.1 Introduction

In construction work, there are many engineering activities and operations in which machine tools and equipment are used that can pose a hazard if proper precautions are not taken. All operations specified in this section will be carried out only by authorized persons. Their names will be recorded in an appropriate registry. It is also important to select and purchase the right equipment for the job, including personal protective equipment, and to properly inspect, use and maintain it.

7.3.8.2 Machine Tool Safety

Only authorized personnel can work on the machine tool after receiving the appropriate training and assessment.

All tools will be regularly inspected. Daily and visual inspection will be done by the user before his shift starts. All maintenance and legal inspections will be recorded and records will be available for inspection throughout the project.

Approved personal protection equipment will be provided and must be worn when using machine tools or portable power tools.

Rotary or reciprocating machines can be extremely dangerous. Dangling clothes, ie ties or shawls, will never be worn and long hair will be tied to the back while working with these machines.

Vibration, which may cause health problems in the long term, enters the body through the organ in contact with the vibrating equipment. For this reason, the effects of vibration should be considered when using vibrating equipment, and vibration should be reduced by methods such as choosing appropriate tools, using anti-vibration protective equipment such as gloves, working for short periods and changing operators. More detailed information can be obtained from the HSE Department.

7.3.8.3 Hand Tools

Unsafe hand tools or the unsafe use of hand tools can lead to accidents. The following should be considered:



- Hand tools should only be used for the purposes for which they were designed: i.e. spanners should not be used as hammers, screwdrivers should not be used as chisels.
- Sharp-edged tools should be used carefully so that they do not injure the user or other people in the immediate vicinity if they slip.
- All tools must be kept clean and well maintained. Wooden handles should be smooth, free of splinters and correctly fitted.
- All kinds of tools designed to be used by holding their handles will not be used without handles. Handles will not be painted or taped.
- Tools shall be carried in a tool box, bag or on a tool belt to minimize accidents caused by falling objects while working overhead or climbing stairs.
- Persons using equipment with high accident potential such as nail gun etc. must have received special training on the equipment.

Hand tools should be checked before use and at regular intervals for defects and whether they have been repaired or replaced.

7.3.8.4 Cutting and Welding with Oxygen

- Only persons who have received formal training and have the appropriate authorization certificates will perform welding work.
- Before use, a qualified and authorized person will inspect all welding equipment.
- Gas hoses suitable for the type of gas will be used, and gas cylinders will not be kept outside of transport vehicles in the working areas. The tubes will be fixed by chaining to the transport vehicle.
- It will be ensured that at least two safety valves suitable for the cylinder type are installed.

7.3.8.5 Arc Welding – General Hazards / Precautions

- Welding cables will be connected as approved. There shall be no exposed metal parts on any of the cables or socket connections.
- Welding cables will be in good condition, specifically labeled and inspected at least quarterly. There will be no splices / taped splices 3 m away from the cable end.
- The casing of all arc welding machines will be grounded and a ground return wire will be used.
- Electric welding machines will be supplied with a disconnect tool.
- The ground wires will be attached to the workpiece with a clamp. The ground wire shall not be connected to the equipment or to existing installations or apparatus.
- It is forbidden to connect the ground wires by welding. Concrete shall not be used for grounding purposes.
- Welding equipment will be installed in such a way that the welder can see it during welding work.
- Welding equipment shall not be placed in the path of falling sparks.
- Cables will be kept away from passageways, stairs and stair treads. Cables will be protected with a suitable cover if exposed to a possible danger.



- When not in use, diesel welders, generators and transformers will be turned off and the electrodes removed.
- Refueling will be done after the machine is turned off.
- Hot electrode holders shall not be immersed in water as this could result in electric shock to the welder.
- When grinding or welding, goggles should always be used and the welding shield should be attached to the helmets.
- Air suction systems will be used in works where the gases emerging as a result of welding are at risk of harming the workers.

7.3.8.6 Gas Source and Combustion - General Hazards / Precautions

- The welding or cutting torch and hose will not be connected to the cylinder when stored.
- Compressed gas torches shall be in good condition and lit only by friction-driven tools, not lighters, matches or hot works.
- Cylinders shall not be placed inside containers or buildings.
- When the work is finished and the equipment is released, the valves in the gas and oxygen cylinders will be closed and the cylinder keys removed.
- The hoses will be emptied and a check will be made after five minutes for possible pressure build-up.
- Torches will be removed from the hose before being placed in the toolbox. Smoking will not be permitted during the finishing procedure or during the welding process.
- Special care shall be taken during cutting and welding operations at overhead heights in order to protect itself and to prevent falling sparks from starting a fire. In case the welding work is carried out on the passageway/close to the passageway/working areas, necessary measures will be taken to protect equipment and people (fire blanket, barricaded areas, etc.) and these will be explained in the risk assessment / hot work permit.
- Fire extinguishers / Fire Guards will be available and fire blankets will be used for protection.
- Adequate ventilation shall be provided when cutting or welding works are carried out.
- Cables will be kept away from passageways, stairs and stair treads. If hoses are exposed to similar potential hazards, they will be properly protected.
- Hoses will be checked regularly.
- It is forbidden to use the cylinders as support elements for welding activities, full or empty.
- Unprotected eyes and exposed skin are likely to be damaged by the intense ultraviolet light received during arc welding. Anyone who suspects that he has received a "Weld Burn" injury should immediately contact a first aid worker for treatment.
- Air suction systems will be used in works where the gases emerging as a result of welding are at risk of harming the workers.

Before starting the operations, the following measures will be taken into consideration:

- According to the dangerous goods regulation (Control of Hazardous Substances for Health – COSHH, HAZMAT or similar) an assessment will be made regarding cutting or

welding activities and necessary measures will be taken to reduce the risk of inhaling harmful gases or fumes. Smoke evacuation systems will be used in confined space. Where smoke evacuation is not possible, breathing systems will be used.

- All kinds of flammable materials will be kept out of the working area and vehicles and pipes will be purified from foreign materials in a suitable manner.
- The locations of fire extinguishers, hoses and similar equipment will be indicated and if necessary, additional fire extinguishers or fire lookouts will be placed close to the work area. A fire guard will be assigned in case of burning or welding in the vicinity of flammable and explosive materials or in situations where these materials may be affected.
- Depending on the risk assessment, appropriate fire extinguishers and operational protective shields will be available in the working area.
- In cases where risks to personnel or equipment cannot be completely eliminated, a Work Permit will be obtained and, if necessary, any additional measures specified in the Permit will be taken before starting work.
- Appropriate protective clothing and equipment will be used at all times by operators and the work area will be observed to avoid harm to nearby employees or visitors.
- The voltage in normal arc welding machines is not high enough to present an electric shock hazard in dry conditions. However, arc welding equipment should never be used in damp or wet environments due to the increased risk of electric shock.
- Oxygen, propane and acetylene cylinders will be housed in approved cylinder stands / trolleys and neck guards will always be fitted. Cylinder valves will be insulated and oxy-acetylene sets will be stored outside the building in approved storage areas when not in use. Acetylene cylinders shall always be kept in a vertical position.
- A flame arrester will be attached to the cylinder end of the outlet hose.

7.3.9. Gas Cylinders

7.3.9.1 Introduction

There are many hazards associated with the use and storage of compressed gases. These hazards can be minimized by following the recommendations issued by the suppliers and by following the key safety rules.

Persons using compressed gases will be familiar with the properties of the gases they use and their particular arrangements.

Upon request, the supplier will provide data on the characteristics and safety measures of a particular type of gas.

Sprays are usually sprayed with compressed gases and the hazards associated with propellants are greater than those from sprays.



7.3.9.2 Coding with Colors

Personnel using compressed gases will be familiar with the system used for cylinder content identification, which is recommended in international safety rules.

Compressed gas containers shall be defined as containing standard gas or special gases and mixtures.

It should be kept in mind that not all special gas cylinders apply this system, as suppliers have different applications. In any case, the basic means of identification is to write the name and chemical formula of the gas on the label to be hung on the cylinder body.

In addition, the name of the content, the formula and the gas composition can be printed on the body of some cylinders.

A secondary identification might be painting the body or color coding using band colors.

In case of any doubt as to the identity of any gas or gas mixture, an analysis of the cylinder contents will be made. Where possible, all known information regarding the content will be given to the analyst.

Under no circumstances will personnel make gas mixtures themselves unless they are sure that the cylinder is suitable for the prescribed content, and the type of content and any potential hazards shall be clearly written on a label.

7.3.9.3 Hazards

Gas cylinders are powerfully designed to contain high pressure contents under normal conditions. However, when exposed to heat and fire, they are extremely unprotected and can have very bad consequences regardless of their ingredients.

Obviously, toxic or flammable gas or liquefied petroleum gas (LPG) only increases the danger if they break down.

For these reasons, Fire Brigades are generally concerned when gas cylinders are kept inside buildings, as they pose serious hazards to those who enter for firefighting purposes.

Fire Brigade procedures state that they should not expose their personnel to unnecessary risks.

In a building suspected of containing gas cylinders, firefighting will likely be done from a safe distance, causing further damage to the building.

The valve connection is a cylinder's weakest point. Regardless of whether it ignites or not, gas escaping from a full cylinder can push a cylinder with a force that can cause serious damage or injury if it breaks due to misuse or improper handling. Therefore, it is the responsibility of the transport personnel and subRECs to ensure that the valve guard or cover is in place during the transport of the cylinder and that it remains attached until the cylinder is fixed for use.



During their use, the cylinders will be fixed by being placed on specially designed wheeled carriers and kept at such a distance that the flames, slag and sparks of cutting and welding works cannot reach the cylinder.

7.3.9.4 Installation

- Gas cylinders shall be rigidly installed vertically and protected, preferably by being fixed inside cylinder enclosures located outside of all buildings.
- If it is installed for part-time use, the cylinders will be fixed in place with the cylinder clamps manufactured for this purpose.
- By careful selection of mounting positions, the rollers will be protected from mechanical damage.
- Cylinders shall not be located in passageways where they could obstruct passage and cause additional hazards should a fire occur.
- Appropriate pressure regulators and fittings will be used on all cylinders and users will ensure that they are familiar with the correct procedures for installation. It will be noted that most cylinders containing flammable gases have a Left Thread Thread which can be identified by the notches on the hex nut. Where appropriate, isolated, non-return, flame arrester and overflow valves shall be fitted where necessary.
- Fuel and oxygen hoses shall be in good condition and be identifiable (by color or marking), wound up in accordance with local regulations or guidance documents, and fitted with locking connections (clamps) and a backfire catch.
- All downstream fittings of the pressure regulator shall withstand the maximum cylinder pressure unless fitted with a properly sized pressure relief device that cannot be isolated.
- Joints will be checked for leaks using approved leak detection equipment and following procedures.
- Oil, grease or gasket sealants shall never be used on cylinder assemblies.
- Special pressure regulators and pressure gauges will be used for pressurized oxygen service and the pipes will be thoroughly degreased.
- Some gases (for example: CO₂, propane or butane) are stored as liquids and use the in-cylinder evaporation process to release the gas. Users should be aware that this process will cause the cylinder to cool considerably and there is a possibility of reaching freezing temperatures.
- If liquid transport is required, the cylinders will be equipped with a slope pipe and, if necessary, appropriate external evaporation will be provided.
- When a needle valve (or other multi-turn valve) is used to regulate gas flow from the cylinder, a quarter-turn isolating valve with an appropriate pressure ratio downstream shall be fitted to allow rapid shut-off of gas flow.

7.3.9.5 Transport

- While the cylinders are being transported, their valves will always be closed, the regulators removed, and the valve guards or caps attached.
- Large rollers will only be transported by wheeled carriers or sleds. Cylinders shall not be lifted by holding their valves or using chain slings or magnets, and care shall be taken to avoid collisions or impacts during lifting.



- Cylinders are bulky and heavy, so they will only be handled by personnel properly trained in handling them by hand.
- In the case of transporting the cylinders, preferably flatbed vehicles will be used. In case the driver's place is not separate or isolated from the main vehicle, toxic and flammable gases will never be transported by closed box vehicles.
- When not in use, compressed gas cylinders shall be in good condition and stored upright, secured in a marked fence or cage. Cylinder valves will be closed. There will be a distance of at least 6 meters between flammable materials and oxygen. If the cylinders are not used for 24 hours, the regulators will be removed and the equipment will be stored in working condition, free from grease and oil.

7.3.10 Excavations and Trenches

7.3.10.1 Introduction

There are many hazards when personnel must work below the surface, some of which are obvious and some are not. They will be risk assessment and work permit system control tools to ensure personnel and equipment are not damaged.

The following good practices will be used in the construction activities and will be applied along with the Excavation Procedure throughout the Project period:

- While working inside the facility, no deep excavation or pit work will be done without a written work permit.
- When personnel are working in the trench 1.2 meters or deeper, one or more ladders shall be securely placed in the trench for routine or emergency exit from the bottom of the trench to the top.
- Ladders will be placed at least every 9 meters.
- Excavations and ditches shall be reinforced or sloped as approved in accordance with soil conditions.
- No material shall be stored less than 2 meters from the sides of the trench or excavation area; this also applies to the slag heap, if that is the case.
- The excavation area with a depth of less than 1.2 meters will be closed with soft barricades such as warning strips and rope tied with ribbons. Deep excavation areas with a depth of more than 1.2 meters will be closed with rigid barriers such as scaffolding pipes or steel railings or similar materials. Rigid barriers will be placed at least two meters from the excavation area end.
- The passage of pits, ditches, and channels will be provided by temporary bridges with a width of at least 1 meter and covered with guardrails at least 1.1 meters high on both sides. These balustrades will be covered with a height of 0.15 meters from the bottom up and there will be a handrail at a height of 0.5 meters from the floor.
- Due to the possibility of people falling into ditches or similar holes in the dark, excavation areas will be illuminated with beacon lights with a voltage not higher than 42 volts at night and physical barriers will be installed.
- A competent person will inspect the excavation areas and trenches as necessary and record the conditions before starting any work. In case of any signs of slipping or collapse,



all work in the relevant area will be stopped until the necessary measures are taken to protect the personnel.

- Trench inspections will be made daily prior to trench entry.
- Survey holes will be manually dug in known or suspected areas where underground cables or pipes run. It is forbidden to excavate with machinery in areas closer than 1 meter to known places where underground cables or pipes pass.
- Work will be carried out in accordance with the rules specified in the REC Excavation standard.

Position	Professional competence	Experience	Vocational training
Infrastructure Chief / Officer	Graduated from Engineering Faculties of Universities (Preferably Survey or Civil Engineering departments).	At least 5 years in excavation / infrastructure works.	At least 1 day of theoretical training on safety in excavation / infrastructure works from a person or institution approved by Rönesans in the last 2 years
Infrastructure Engineer / Technician	Graduated from Civil/ Survey Engineering or Technician departments of universities.	At least 2 years in excavation / infrastructure works.	At least 1 day of theoretical training on safety in excavation / infrastructure works from a person or institution approved by Rönesans in the last 2 years
Infrastructure Foreman	At least secondary school graduation.	At least 5 years in excavation / infrastructure works.	At least 1 day of theoretical training on safety in excavation / infrastructure works from a person or institution approved by Rönesans in the last 2 years
Heavy Duty Equipment Operator	At least secondary school graduation, Driver's license, Operator certificate suitable for the relevant construction equipment class.	At least 1 year in excavation / infrastructure works.	At least 4 hours of theoretical training to be given by the HSE Trainer / Legal Occupational Safety Specialist on safety in excavation / infrastructure works.
Flagman	Minimum primary level graduation. Flagger certificate issued by the country's legal authorities, if legally required.	At least 3 years in the field of working with construction machinery and equipment.	Flagship training lasting at least 4 hours, repeated once a year, containing the theoretical and practical parts by a person or institution competent in this field, conveying the hazards and control methods of construction machinery and equipment and the requirements of this procedure, the duties and responsibilities of the flagmen, and specific guidance methods.



Infrastructure foreman and heavy-duty equipment operator to work in excavation works must have physical and mental health qualifications suitable for the job.

- In the risk assessment to be carried out, at least the following hazards and risks are taken into account.

These are;

- Landslide.
- Employees fall in excavation site
- The loads fall on the employees
- Hazardous atmosphere (smoke, oxygen deficiency, toxic, flammable and explosive gases),
- Contact with underground services and overhead power lines,
- vehicles, heavy and mobile equipment,
- narrow space,
- Entrances and exits to the excavation,
- Water accumulation in excavation,
- Misuse and improper use of equipment,
- Distance to bulk and waste materials,
- Cables on the floor and sharp, heavy, blunt objects,
- Incidents arising from persons or facilities working adjacent to the excavation,
- Buried ammunition,
- Polluted soil
- Electricity

Rescue planning is made for each excavation work. Rescue plans include at least the following topics.

- Possible dangers and possible emergencies,
- The scope and size of the work,
- The number and duties of the people who will be involved in the work,
- A safe and fast method of evacuation of workers from the excavation,
- Emergency communication method (including communication with unit leaders),
- Possibility of intervention for injured people,
- location of rescue equipment,
- gas measuring equipment point,
- Unplanned electrical contact, floods, fires, etc. natural disasters,
- The location of the nearest emergency services,
- Access to rescue vehicles and casualties,
- Map or aerial photograph showing cutoff and control points such as valves,
- Other risks identified for the relevant activity.
- While making the Emergency Response Planning, the following items should be evaluated in the plan.
- The development of the warning system is evaluated.
- The safe evacuation plan is communicated to all concerned.

- Employees trained in evacuation and rescue are available.
- During the working period, medical personnel and appropriate vehicles are available.
- Necessary equipment for cutting electricity or other energy sources is kept ready.
- Other principles for emergency response planning are specified in the HOL–HSE–PRO–107 Emergency Management Procedure.

-Excavations of 1.2 m and deeper in Rönesans are subject to work permit

- In excavations deeper than -1.2 m, no work will ever be undertaken, regardless of the conditions, without a suitable scaling or shoring system.

-Solo works are not allowed in excavation works

Table. Safe Distance of Construction Equipment to the Excavation Edge

Excavation Depth (m)	By Ground Type			
	Sand	Sandy-Clay (m)	Slime (m)	Clay (m)
1	1,5	1,25	1	1
2	3	2,4	2	1,5
3	4	3,6	3,25	1,75
4	5	4,4	4	3
5	6	5,3	4,75	3,5

7.3.11. Manual Transport and Lifting

7.3.11.1 Introduction

This section covers manual handling and lifting equipment. Lifting and evaluation of lifting are defined in various Turkish and international legislation. These equipments include chains, ropes, hoists, overhead traveling cranes, etc.

7.3.11.2 Assessment of Manual Handling

Manual Handling is defined as:

- Lifting / lowering,
- Pushing/ Pulling,
- Transportation,
- Throwing / releasing / catching an object by applying direct body force.

The most effective way to avoid injuries from manual handling is to use lifting aids or to use the assistance of a trained lifting team.

When manually lifting (or lowering) from a low place (or floor), the knees will be bent, the back will be straight, and the lifting will be performed with the knees straight. The load will be kept close to the body and the body will be avoided from rotating. The load will always be clearly visible.



A formal hand-handling risk assessment will be undertaken to identify any necessary control measures to protect personnel for complex tasks.

7.3.11.3 Lifting Works and Lifting Equipment

Lifting is one of the high-risk activities within the industry. Therefore, the REC MAOG Project Lifting Procedure will be consulted and strictly followed as a guide to lifting activities and the purchase, maintenance and inspection of lifting equipment and safe lifting practices.

Purchasing Lifting Equipment

In order to comply with legal requirements and reduce the risk of accidents, persons wishing to purchase lifting equipment must comply with the following requirements:

Persons requesting lifting equipment will apply to the REC MAOG Project Site Supervisor and the REC MAOG Project HSE Manager/Chief, who will approve the request and place the appropriate order for each piece of equipment.

The purchase request will state that it is necessary to have identification numbers on the equipment and test certificates.

Lifting equipment from suppliers without the appropriate identification numbers on them will not be accepted.

Maintenance and Registration of Lifting Equipment

The Relevant Regional Supervisor will be responsible for keeping all records of all lifting equipment, including daily inspection records made by drivers of mobile lifting vehicles (for example: Test Certificates, Registration of Lifting Equipment, Due Diligence Records and Due Diligence Reports).

The owners of the equipment will ensure that a copy of any certificate obtained from the manufacturer/supplier is given to the REC MAOG Project HSE (HSE) Department. This case includes all kinds of certificates for cranes and lifting equipment such as sling, chain, etc.

Lifting equipment that has been modified or repaired in any way will be retested and a new test certificate issued.

Safe working weight will be marked on each piece of lifting equipment. Slings and chains will be recorded as they are taken into and out of storage.

Inspection of Equipment and Equipment

All lifting equipment will be inspected by the user before and after use and any malfunction or breakdown will be reported to the REC MAOG Project Manager/Chief.



If, after inspection by a qualified person, the equipment is found to be defective, the equipment concerned will be out of service until it is repaired and re-certified. The following will be considered as scrapping criteria:

- Hooks that are opened by 15 percent more than the width measured at the narrowest part of the mouth opening or bent more than 10 degrees from the straight section of the untied hook.
- Five randomly broken strands in a braid or three broken strands in a rope arm.
- One-third of the original diameter of the outside of the wires alone is frayed or peeled.
- Rope severely bent, crushed, cut, or otherwise damaged in a way that disrupts the structure of the rope (twisting permanently damages a rope and accelerates peeling).
- Significant wear at the bending intervals.
- Signs of heat damage such as weld marks.
- 25% or more reduction of the nominal rope diameter.
- Melting or charring anywhere on the slingshot surface.
- A net sling on which melting or charring occurs anywhere on its surface.
- Wire rope with 7% damage related to any cut on the steel surface will be immediately removed from the construction site.
- The net sling with any cuts on it shall be immediately removed from use and out of duty area.
- Knots, holes, tears or abnormal peeling.
- Broken or peeled seams.
- Distorted equipment.
- Discoloration or rot.
- Lack of control label or mark.

All lifting equipment and equipment will be marked with SWL and inspected by a competent person at the following intervals:

Equipment	Control frequency
Overhead Cranes, Mobile Lifting Platforms, Lifts, Hoists, Mobile Cranes, Tower Cranes	Once in 3 months
Lifting Equipment and Accessories (Chain, Rope, Auxiliary Lifting Equipment, etc.)	Everyday

Color markings for sling and lifting equipment will indicate that the relevant equipment has been inspected at the specified frequency.



The correct color for the available time will be reported to the construction site. Equipment not carrying the current color will be withdrawn from service and the HSE Department will be notified. Detailed lifting activities are described in the Lifting Procedure.

Competency Matrix

Position	Professional competence	Experience	Technical Training
Lifting Operations Officer	Higher education engineering faculty or college graduate* (Preferably Civil, Mechanical Engineering). Certification of lifting supervision/expertise, issued or valid, as applicable, by the legal authority in the country of work.	At least 3 years in the field of lifting works.	It is preferred to have at least 2 days of theoretical and practical training from a competent institution and/or person in the last 2 years in the field of lifting works management and realization.
Lifting Operations Foreman	Graduation from at least secondary school level, to the extent applicable, certificate of lifting supervision issued or valid by the legal authority in the country of employment	At least 7 years in the field of lifting works.	At least 2 days of theoretical and practical training from a competent institution and/or person in the last 2 years in the field of lifting works management and realization is preferred.
Crane Operator	Operator's license issued or valid by the legal authority in the country of work, covering the relevant hoist.	At least 3 years in the field of lifting works.	It is preferred to have received theoretical and practical training from a competent institution and/or person in the last 2 years in the field of lifting works management and realization.

Slinger**	To the extent applicable, a slinging / pointing certificate issued or valid by the legal authority in the country of employment.	At least 2 years in the field of lifting works.	It is preferred to have received theoretical and practical slinger training from a competent institution and / or person in the last 2 years.
Banksman**	To the extent applicable, a slinging / pointing certificate issued or valid by the legal authority in the country of employment.	At least 2 years in the field of lifting works.	It is preferred to have received theoretical and practical banksman training from a competent institution and / or person in the last 2 years.

* If at least 5 years of experience in the field of lifting operations is documented, graduates of Civil Technician, Mechanical Technician can take on the task of Lifting Work Supervisor and work in the field.

** Slinger and banksman performances are evaluated at intervals determined by the Project / Enterprise, records are kept by the HSE unit.

- For non-routine lifting operations, the Project Manager and Lifting Operations Officer are consulted. A meeting is held at least 3 (three) business days before the planned lifting operation, with the participation of the Project Manager and / or Lifting Operations Officer and other relevant section chiefs.
- Before starting the lifting operation, a pre-lifting risk assessment meeting or an assessment meeting for additional measures is held.

Lifting Operations Management Chart

Lifting Operations Class	Risk Management Tool	Competent Staff	Other
Routine Lifting Operations	A general lifting plan with sufficient information about the lifting operation to be performed, TRIC / STARRT Card, Toolbox Talks,	Lifting Operations Manager, Slinger, Banksman	ITA and/or Work Permit system may be applied.
Non-Routine Lifting Operations	Specific Lifting Plan / Work Construction Method Toolbox Talks, Work Hazard Analysis (ITA), TRIC / STARRT Card	Lifting Supervisor, Banksman, Slinger	Work permit system is applied.



While not limited to these, the following factors are taken into consideration in the risk assessments of the lifting operations to be carried out:

- Cultural, communicative and language barriers
- The weight, dimensions, shape and center of gravity of the load,
- Lifting points defined on the load,
- Slings methods,
- The integrity of the load and the necessity of using a guide rope,
- The suitability and current status of the lifting tools to be used,
- Positions and route of the load before and after the lifting operation,
- Movement of the load over the live plant, equipment during the lifting operation,
- The number of lifts and their duration,
- Work conflicts in the work area,
- Environmental conditions such as weather,
- Lighting,
- Safety distances with dangerous obstacles,
- Contingency requirements for the lifting crew,
- Competence of the lifting works team,
- Pre-use inspection of lifting equipment and hardware

Voltage	Minimum Required Distance (m)
0-300V	Avoid contact
300V-50KV	3
50 KV-200 KV	5
200KV – 350 KV	6
350KV – 500 KV	8
500KV – 750KV	11
750KV – 1000KV	14

Minimum working distance to overhead power lines

- Unless a limit on wind speed is specified in the lifting equipment manufacturer's manuals, work is stopped when lifting works reach 12.5 m/s (45 km/h) for hoists.
- In human lifting operations with baskets, the work will be stopped if the wind speed is more than 7 m/s (24 km/h)¹ unless a safer limit is specified in the manufacturer's manuals.
- If the wind speed is more than 12.5 m/s (45 km/h)², it is not allowed to work on mobile elevating work platforms (MEWP), unless a different limitation has been imposed by the manufacturer.
- For non-routine lifting, an activity-specific lifting plan is prepared by the lifting team under the leadership of the lifting operations officer before the lifting operation begins. The lifting plan should include but not be limited to the following requirements:
 - Load characteristics, slinging and lifting method,
 - Selection of suitable lifting gear and lifting equipment,
 - Communication methods to be used,
 - Identification of lifting operation steps (load location, route, place to be unloaded, load integrity and stability)



- Location of the lifting gear,
- Determination of the lowest bearing capacity and suitability of the ground where the lifting operation will be performed (ground test if necessary),
Environmental conditions,
- Limiting the lifting operation area and determining the safety signs,
- Emergency response and rescue methods,
- Persons in charge and their roles,
- Identification of distances to hazards and facilities,
- Information of the persons who prepared, checked and approved the lifting plan,

Each lifting tool will have labels / information on it showing the following;

- Safe working load (SWL) or working load limit (WLL) values,
- Lifting equipment serial number,
- Date of last inspection and certification and/or date of next inspection and certification.

The following requirements will be met for all lifting gear.:

- Subject to maintenance at the frequency specified by authorized institutions in accordance with the instructions of the manufacturer / supplier, keeping maintenance records,
- All changes and repairs to the structural elements of the hoist are carried out only by the institutions authorized by the manufacturer and this matter is documented,
- The load chart including options for different configurations (rope equipment, counterweight, jib length, additional jib use), angles and jib clearance is visible on the hoist,
- Anti-two block breaker, overload breaker, extreme wind breaker and all other applicable safety equipment of the hoist vehicle are active,
- There is a lower limit breaker at the point where only 3 turns of rope remain on the hoist drum,
- Calibration of the electronic load scale (SLI) of the hoist, if any,
- All measures have been taken to prevent fire in the operator's cabin and to intervene in a possible fire.
- Use of the hoist only by authorized operators,

If the above-mentioned conditions are not met, the lifting vehicle is not allowed to be used in projects and businesses.

Forklifts must be designed in accordance with EN 1459 and must have the following documents:

- Valid inspection and load test report/certificate covering all main and additional equipment,
- Completed and up-to-date daily/weekly inspection and maintenance records.

Only forklifts with the following design features are used at Rönesans sites:

- Audible reversing alarm, which is active when the forklift moves backwards,



- Orange signal lamp that turns on when the ignition switch is turned on,
- Always active and on working lights,
- Rearview mirrors,
- Suitable rollover protection cab and approved two-point seat belt;
- Appropriate labels covering the tipping position by the operator as prescribed by the manufacturer, hung / affixed to the relevant places in the cabin,

Forklifts are selected considering the following;

- Stability (weight of materials to be transported, area needed, structure of the land, etc.)
- Presence of protection of dangerous parts,
- Noise generated
- Operator comfort, protection against weather and falling objects
- Convenient cab and seat design to protect the operator from back pain or other injuries.

There are labels / information on each lifting gear showing the following;

- Traceability information (Manufacturer information, serial number or batch number and, if any, ID number attached by Rönesans)
- Safe working load (SWL) or working load limit (WLL) values,

Synthetic (endless and double eyed) slings:

Synthetic slings must comply with EN 1492. Model number and serial number of the sling conforming to EN 1492

It is proven by a valid certificate that the number is matched.

Resistant to cuts, tears, chafing, chemical damage, punctures, heat damage and UV rays along its entire length.

Synthetic slings with associated damage are obsolete in the Rönesans.

All synthetic slings must have a factor of safety of 1:7.

Steel slings should have a safety factor of 1:5.

Chain Slings: Chain slings used in Rönesans must comply with EN 818.

The eyebolts used in Rönesans must comply with EN 13889.

7.3.12. Excavations and Trenches

7.3.12.1 Introduction

The widespread use of mechanical equipment in the construction industry increases the quality and effectiveness of the work; however, it also causes potentially dangerous situations.

This section does not cover all situations that may arise; however, it does take into account certain hazards that may arise from certain pieces of equipment and their use.



The only way to safely use mechanical equipment is to have appropriately trained operators, to use well-maintained equipment and to use it for the job it was designed to do.

- All material handling machines in the construction site will be equipped with a rollover protection system and this system will protect the driver who is wearing a seat belt in case the vehicle rolls over.
- Unaccompanied equipment will be equipped with lighting, reflectors or barricades in order to locate the equipment near the road or in the construction area where the work is ongoing.
- Equipment will be shut down if left unaccompanied. When parked, load-bearing equipment (holding fork, etc.) will be lowered to the ground and the parking brake will be applied.
- The glasses of the equipment will be safety glass and there will be no defects or cracks that may prevent their operation. Headlights will not be broken and there will be no signs of leakage.
- There will be one fire extinguisher in all mechanized equipment at the construction site and this fire extinguisher will be installed in an easily accessible place and regularly inspected. Motor vehicles will have seat belts and will be used. Bidirectional machines will have an audible reversing alarm.
- All motor vehicles are to be equipped with: 1) a working parking brake, 2) two headlights and taillights for night or underground work, 3) a horn, 4) a reversing alarm in case of obstruction, 5) no cracked windows.
- In order to prevent people from entering the unsafe area, a closed entrance area protected by solid materials will be created.
- Measures will be implemented to prevent cranes and other vehicles from damaging the safe proximity distance of overhead power lines with electricity. These measures may include warning signs and warning poles to be placed on both sides of power lines.
- All mechanical equipment shall be visually inspected daily before use. This audit will be documented.

7.3.12.2 Operators

Only trained personnel will use any mechanical equipment. Operators will receive training on its procedures and functions in relation to a particular equipment; they must be fully familiar with the machine's capacity and limitations, and be familiar with the necessary daily maintenance.

It is recommended that subRECs train and test all equipment operators and provide a written authorization stating the equipment they are authorized to use.

Heavy equipment operators are required to have a license for the relevant machine class.

7.3.12.3 Machinery Protection

All moving parts of the machines will be protected by shields. This is especially true for gears, pulleys, V-Belt pulleys, fans and rotating shafts. All these parts are found in most static equipment used in or around construction sites. Other examples of equipment that must be protected include



cooling fans in compressors and generators, main drive shafts in pumps and dampers, and cable reels in cranes and concrete mixers.

All machines and benches that will work at the construction site and that do not have hand tools will have been checked by Türkak approved institutions within the periods specified in the legislation. Equipment that does not have a periodic control certificate or that has passed the control period will not be taken to the field, and if it is detected in the field, it will be taken out immediately and a disciplinary procedure will be applied to the relevant company. Pressure vessels, lifting equipment and equipment, grounding controls will be checked every six months.

Visors will be installed on the equipment before it arrives at the construction site and will always be kept in place while the equipment is in operation. Shields that are removed for routine maintenance or repair will be reinstalled before the equipment returns to work.

Cages, restraints, grilles or clips cannot fully protect personnel working at or near the tire repair area during tire inspection, so the tire will be deflated before starting the repair. The tires will be inflated in a strong limiting device (tire cage) and slowly increasing the tire pressure.

7.3.12.4 General Requirements

- All necessary permits must be obtained before using any mechanical equipment on the REC MAOG Project construction site.
- All machines will be inspected before they are put into operation and these inspections will continue at regular intervals thereafter.
- Maintenance schedules will be determined for each piece of equipment and this schedule will be strictly adhered to.
- No repairs, adjustments or replacement of parts will be permitted on moving machinery. Before making any repairs, all equipment will be stopped and stopped so that accidental start-up is not possible.
- At the start of each shift, the operator will check the oil, water, fuel and hydraulic levels, making sure that all gauges are working and the machine is running smoothly. Safety equipment (ie visors, safety switches, regulators, etc.) will be checked daily.
- Equipment moving or working on the highway must have headlights and reflectors. Equipment will be parked off the road. If this is not possible, flashing lamps, cones or other warning devices will be used to warn of approaching traffic.
- When vehicles are left unaccompanied (even at night), the engines will be stopped, the parking brakes will be applied and the wheels will be chocked. Blades, scraper drum and other hydraulic equipment will be lowered to the ground before the operator leaves the machine. Starting the vehicle by unauthorized personnel will be prevented by removing the ignition key and/or removing the battery cables.
- Unless instructed otherwise, operators will disembark while maintenance or repair work is in progress.
- Cabins attached to equipment will have 360o view angle. Cabins will be kept clean and free of items such as garbage or loose tools. Glass will always be kept clean and will be replaced if there are pits, cracks or breaks in the glass.



- If the operator of a moving machine cannot see the area around the machine, an attendant will take a suitable position to assist the operator.
- All equipment will be located in such a way that the exhaust fumes do not affect the workers in the area. Gasoline-powered equipment shall not be used inside buildings or other confined spaces.

Position	Professional competence	Experience	Technical Training
Machine Equipment Manager	Graduated from Universities' Colleges or Engineering Faculties (preferably machinery or construction departments).	At least 5 years of working with construction machinery and equipment.	Risk Assessment Training. All machinery and equipment usage manuals and maintenance control processes used in the Project / Business should be mastered.
Heavy Duty Equipment Operator	Operator certificate, primary school level and covers the relevant heavy work equipment, issued or valid by the legal authority in the country of work.	At least 3 years in the field of work with specific heavy-duty equipment with an operator's certificate.	It is preferred that the operator has received at least 4 hours of training, which is repeated once a year, by a person or institution competent in this field, which conveys the hazards and control methods of the specific heavy-duty equipment he is working with and the requirements of this document, including the theoretical and practical parts.
Motor Vehicle Driver	Secondary education graduate, Driver's license covering the relevant motor vehicle issued or valid by the legal authority in the country of work, and SRC / psychotechnical examination, etc. additional documents.	At least 5 years in the field of working with a specific motor vehicle with a driver's license.	Safe driving training lasting at least 4 hours, repeated once a year, containing the theoretical and practical parts by a competent person or institution, which conveys the hazards and control methods of the motor vehicle to be used by the driver and the requirements of this document, and includes the dangers and risks for on-site use.

Construction Equipment Operator Assistant (Greaser)		At least 3 years in the field of work with the specific construction machinery and equipment.	A training lasting at least 4 hours, repeated once a year, including the theoretical and practical parts, by a person or institution competent in this field, explaining the hazards and control methods of the specific construction machinery and equipment he/she works with and the requirements of this document.
Flagman	Secondary education graduate, if required by law, flagship certificate issued or valid by the legal authority in the country of employment.		Flagship training lasting at least 4 hours, repeated once a year, containing the theoretical and practical parts by a person or institution competent in this field, conveying the hazards and control methods of construction machinery and equipment and the requirements of this procedure, the duties and responsibilities of the flagmen, and specific guidance methods.
Banksman	Secondary education graduate, banksman training certificate issued by the Vocational Qualifications Authority and, if legally required, banksman certificate issued or valid by the legal authority in the country of employment.	At least 2 years of experience in the field of working with lifting equipment is preferred.	Banksman training lasting at least 4 hours, repeated once a year, including the theoretical and practical parts by a person or institution competent in this field, conveying the hazards and control methods of crane lifting works, crane signs and communication methods, the requirements of this document, the duties and responsibilities of banksmen.

Construction Machinery and Equipment Coding;

- Machine Type
- Machine Model
- Machine Model / Year of Manufacture
- Machine Serial Number
- Ownership Status (Rönesans property, rental, subREC property, etc.). Coding applies equally to all leased and subcontracted construction machinery and equipment.

In cases where the risk of mechanical contact with the moving parts of the work equipment may cause an accident;

work equipment that will prevent access to the hazardous area or move before that area is reached.

It is equipped with suitable guards or protection equipment to ensure that the parts are stopped.

The

Daily maintenance and controls of these are monitored by the Machinery Equipment Officer.



Machine protectors used in all construction machinery and equipment are designed, applied and used in accordance with EN 3840, EN 12100 and EN 13849.

In addition, periodic checks are carried out in the following cases:

- If the safety of the work equipment is related to the installation and assembly conditions, a periodical control report containing the work approval is prepared by the authorized persons for the periodical inspection before the first use after the installation / assembly of the equipment and before use at each change of location.
- Periodic control is renewed even if it is not expired in case of exposures that will cause malfunctions (damage of critical components such as rope, boom, cage, etc.) during use.
- In case of accident involving work equipment (oscillation due to falling of suspended material, etc.),

natural events (such as earthquake), periodical control of the equipment is made regardless of the control date.

Each work machine and equipment used in Rönesans is classified and kept in the Periodic Maintenance, Work Equipment, Test and Calibration Follow-up Form, in which the following details are followed:

- Type, model, manufacturer of equipment,
- Serial number and machine equipment code, if any, given by Rönesans,
- Past and future periodic test and inspection dates for construction machinery and equipment subject to periodic inspection and testing,
- For the construction equipment and equipment subject to periodic inspection and testing, the nonconformities encountered in the last test and inspection and their elimination situations.

Maintenance Follow-up Officer : In accordance with the manufacturer's instructions for all construction machinery and equipment:

- To follow the detailed planned maintenance schedule,
- Communicating with appropriate suppliers for scheduled maintenance,
- Obtaining and keeping records of the maintenance performed,
- Responsible for determining breakdown maintenance requirements and ensuring that maintenance is carried out.

Supply Manager: It fulfills the following responsibilities while refueling construction machinery and equipment:

- To refuel in the open area, to ground the work machine and equipment to be refueled and the supply vehicle,



- Ensuring that the engine of the construction machine and equipment is turned off before the refueling begins and that it is kept off during the refueling period,
- Grounding the work machine and equipment to be refueled and the refueling vehicle, making sure that the right fuel is selected for refueling,
- Ensuring that the next construction machine and equipment for refueling is at least three meters away from the one currently being refueled,
- Keeping enough fire extinguishers, leak kits and cleaning materials ready in the supply area during the supply,
- Ensuring that any activity or operation that may cause open flame or sparks is not carried out in the supply area and smoking is not allowed,
- Putting leakage pans under the points where the fuel may leak during the supply,
- Recording the supply information, including the date, time, operator information, the volume of fuel transferred, the construction equipment and equipment.

7.3.12.5 Compressors

Compressors are one of the most common pieces of equipment used in construction work. They can be used to supply air to portable hand tools or to provide air to people working with breathing apparatus in highly hazardous environments. There is a significant difference in the quality of the air used for these two functions.

All employees working at the construction site must know the dangers of compressed air. Compressed air shall never be used to clean dust on clothes or machines. Pranking with compressed air is strictly prohibited. If compressed air is used for special cleaning / purification works, protective glasses and visors that fully cover the face must be worn.

Compressors must be properly designed, checked, tested and maintained. Relief valves will be installed on the compressors and the air tank will be checked periodically.

Before starting, the compressor's discharge valve, fuel, structure and water levels will be checked daily and the water accumulated in the air tanks will be drained. Operating instructions specific to the type of compressor used will be strictly followed.

When supplying air for breathing with compressors:

- Air inlets should be positioned in such a way that they do not receive exhaust gas.
- It should have a filter to prevent oil mist.
- It should have an automatic high pressure alarm.
- It should be periodically tested that the air it supplies is safe for breathing.



7.3.12.6 Concrete Mixers

Some kind of concrete mixer will be used in almost every construction site. Whether it's just a small mixer for masonry work or a complete batching mixer with a large-capacity cement silo, sand and aggregate silos, and scoop comb, the principles of meticulous care and trained operators will apply equally.

- All chains, gears and rotating shafts will be protected by shields. Safety chains and safety catches will be in working order and lifting mechanisms will be in good condition.
- No person shall be permitted to work under or near the loading bucket unless it is secured in place or securely fastened with a safety chain or safety catch.
- A looped access ladder must be securely attached to the silos to reach the overhead inspection hole. No person will be allowed to work inside the silos unless they are wearing a safety belt with a lifeline and a staff member is posted to stand by to assist in an emergency.
- Barricades will be placed at the entrances to the sand and aggregate silos and the barricades will only be removed for the entrances of vehicles that bring material.
- Personal protection equipment such as respirators, earplugs and safety glasses will be used. Hanging clothing shall not be worn near moving machinery.
- In order to ensure the safety of repair and/or maintenance personnel, it will be mandatory to use a lock-and-tag system inside the blending mixers. It is a tool for deactivation process / mechanical electrical “control” equipment during maintenance and repair.

7.3.12.7 Tippers and Dump Trucks

Tippers and dump trucks are commonly used in construction work and often travel on public roads. Therefore, it is important to care for them meticulously.

- The latch on the tipper case will be in good working order and the release assembly will operate smoothly.
- Tippers are not designed to carry passengers. It is strictly forbidden for employees to travel inside the safe or on the engine cover.
- When repairing or maintaining a hydraulically operated dump truck, the tipper body will be fully lowered. If the damper body must remain in the open position, it will be blocked. The hydraulic foot cannot be relied upon to hold the lifted tipper body for a long time.
- All vehicles with cabins will have windshields and electric wipers. Cracked or broken windshields or glass will be replaced. All cabin windows will be safety glass or equivalent.

7.3.12.8 Excavators

Excavation work is carried out using very specific equipment, roughly classified under two categories:

- 1) Fixed position machines,
- 2) Moving machines,



The choice of equipment to be used is decided by the size of the project, the topography, the volume of soil to be mined, and many other factors. Fixed position machines include flat bucket, reverse bucket, dragline and crane bucket; however, it is not limited to these. The “fixed” excavator loosens and loads the soil in a fixed position. They are useful for performing certain excavation jobs in one location. Their loss of mobility is compensated by their ability to exert greater force on the excavation surface. “Mobile” machinery includes bulldozers, loaders, scrapers, graders and trenchers; however, it is not limited to these. They extract, transport and dump excavated materials in a single operating cycle. They are used in applications where large volumes of soil must be removed from uneven ground. They are also used in this process to help level the ground they are working on.

- An excavation permit may require the location of underground pipes or cables to be manually excavated. The said permit must additionally include the excavation permit document from the local Electricity Distribution Administration.
- Excavator operators must have a special license for the machine.
- The stand legs must be fully extended in order to stabilize a mechanical excavator during use.
- A person will be assigned to assist and guide the operator and will be available at all times.
- Oscillating excavators must have a clearance of at least 0.6 meters from any stationary object.
- Lift arms on excavators must be locked before moving for travel.
- No excavation will be made closer than 1 meter to the nearest pipeline or cables or other equipment.

7.3.12.9 Forklifts and Derivatives

Forklift trucks are designed to work on solid and level ground. Such equipment has a limited use in construction sites. However, these vehicles are sometimes used in material handling areas and placing loads where there are solid ground conditions. Operators of forklift trucks must have a valid heavy equipment license.

- It is important that drivers are fully trained and experienced. Operators must be able to handle loads easily and effectively.
- A specific training course will be provided for forklift truck drivers. They will not be allowed to use vehicles on the construction site until they take this course.
- Vehicles fitted with special equipment in addition to or in place of the forks are designed for a specific machine.
- Vehicles will be fitted with overhead protection.
- When traveling with a load on the forks, the forks will be kept as low as possible in order to maintain balance.
- If the transported load obstructs the operator's view, it will move in the reverse direction.
- Operators, loaders, helpers and other workers shall not place any part of their body between uprights, lanyards or other moving parts of the forklift truck. It shall be located away from the vehicle body or cabin.



7.3.12.10 Power Generators

A qualified electrician will be available to ensure that the electrical connections are made properly. The operator will only be responsible for the mechanical functions of the machine.

- All pulleys, belts and fans shall be completely enclosed or otherwise enclosed.
- The side panels of the engine enclosure shall be designed to allow access to the machine for maintenance or repair. When the engine is running, the covers will always be closed.
- The machine shall be properly grounded before each use.
- All temporary generators will be kept in a secondary safety barrier while operating or refueling, avoiding flammable liquids, smoking, etc. There will be warning signs, emergency stop button and electrical outlets will be in accordance with local standards and will be connected to the appropriate grounding line while working and fire extinguishing devices will be available nearby.

Fire Prevention Guide for Portable Power Generators

The following is a checklist of key issues to look at. There may be other potential fire hazards that are not on the list, so thorough experience is imperative.

- Repairing fuel leaks.
- Checking hose and pipe connections for peeling and cracks.
- Cleaning of all combustible garbage near the generator.
- Cleaning up all fuel spills, pouring clean sand around the area if necessary.
- It is forbidden to put visors made of flammable materials around the generator and wooden floor frames.
- Exhaust piping system will be kept away from working areas and flammable materials.
- Generators will be located at least 15 meters away from flammable buildings and materials.
- Check all cables for damage or improper attachments/repairs.
- All generator sets will be electrically grounded (system and frame grounding).
- Fire extinguishers must be accessible. One CO₂ fire extinguisher for the generator and one dry chemical fire extinguisher for the engine drive are recommended.
- All generator sets will be checked daily using this manual.

7.3.12.11 Graders, Dozers, Scrapers, Loaders and Skid Steers

- Heavy earth moving equipment only allows the operator to see only a limited area of his immediate surroundings. Therefore, it is important to assign a signaller to warn the operator of hazards that may not be visible from the operator's position.
- These equipment will have anti-tip protection. Heavy equipment license will be required for each operator who will work on these equipment.



- Before moving the machine, the operator will walk around and see that the environment is clear.
- No people will be allowed to sit or sleep around the machine.
- The engine will not be left running when the machine is not under the operator's control. The operator will stop the engine and take the ignition key before leaving the machine.
- Blades, scraper pot, etc. will be lowered to the ground before the driver leaves his seat. The wheels will be meticulously checked.
- If there is work to be done underneath such hydraulic equipment, the equipment will be fixed in place.

7.3.13. Substances that pose a health hazard

Substances that pose a health hazard are listed as dangerous or harmful by legislation and regulations, a maximum exposure or occupational exposure limit standard has been determined, any dust harmful to health or unspecified; however, other substances that pose a risk in the workplace are preparations. Substances that pose a health hazard can take many forms, including:

- Chemicals,
- Products containing chemicals,
- Fumes,
- Dusts,
- Vapours,
- Mists,
- Gases and suffocating gases,
- Biological agents (viruses). If there is any danger symbol on the package, its contents will be classified as dangerous goods.
- Viruses that cause diseases such as malaria or Legionnaires' disease, and viruses used in the laboratory.

The REC MAOG Project and its subRECs will be responsible for the proper storage, transportation, handling, use and disposal of all kinds of dangerous substances used in the activities or resulting from the activities. Throughout the project period, the REC MAOG Project Control Procedure for Substances Posing a Health Hazard, and Legislation and Regulation will be complied with. Please note that the Procedure for Control of Substances Dangerous to Health does not cover lead, asbestos or radioactive substances, these substances are subject to a separate legislation.

7.3.14. Explosive Atmospheres (ATEX)

Explosive atmospheres may arise due to flammable gases, mists or vapors, or combustible dust. A source of ignition is all that is required to cause an explosion if sufficient material is present and in contact with air.



Explosions can cause death and serious injury, as well as significant damage. Preventing the release of hazardous materials that can lead to explosive atmospheres and preventing ignition sources are the two most common ways to reduce the risk. The use of the right equipment greatly assists this purpose.

ATEX is the general name given to two European Directives published to control explosive atmospheres:

1) Directive 99/92/EC on Minimum Requirements for the Improvement of Occupational Safety and Health of Workers at Potential Risk from Explosive Atmospheres (also known as 'ATEX 137' or 'ATEX Workplace Directive'). The text of the Directive and supporting guidelines published by the EU can be found on the EU website.

2) Directive 94/9/EC on Equipment and Protective Systems for use in Potentially Explosive Atmospheres (also known as 'ATEX 95' or ATEX Equipment Directive). The text of the Directive and supporting guidelines published by the EU can be found on the EU website.

In addition to the European Directives mentioned above, the Turkish Implementation Regulation on the Protection of Employees from ATEX, prepared based on the Directive 99/92/EC, will also be implemented in the project.

Therefore, all electrical installations in possible ATEX areas will comply with the relevant directive and regulation and will require a work permit together with a comprehensive risk assessment. Persons working in ATEX areas will receive training on risks and emergency response procedures, along with the level of detail to be given depending on their functions. All personnel information will be up to date. ATEX areas will be updated regularly and escorts will be available.

7.3.15. Ionizing Radiation

7.3.15.1 Methods of Protection Against Radiation

Ionizing industrial radiation, such as x-rays produced by equipment or gamma rays spontaneously emitted by radioactive materials, is widely used in industry for non-destructive testing, i.e. testing pipes or pressure vessels inside pipes without damaging the material. After the test process is over, no radiation remains in the tested material.

In practical terms, the radiation produced by X-ray machines or emitted from radioactive sources is the same. X-rays and gamma rays both have properties that need to be understood. Although they penetrate the body, they cannot be perceived by any of the five senses; they are absorbed and broken down by the substance; they travel in straight lines at the speed of light; they ionize gases; They affect the photographic emulsion and most importantly, they can pose a danger to living cells in the body. See Radiation Procedure for more information.

7.3.15.2 Exposure Limits

Distance, duration and shielding are the usual methods used to reduce radiation exposure.

Distance



Gamma and x-ray rays are an effective method of distance protection because they act according to the inverse square law, that is, the radiation intensity decreases with the inverse square of the distance. In contrast, dose rates can be quite high at close ranges, even for low activity radiation sources. For this reason, it is important that unscreened sources of radiation are kept at a distance from personnel so that they do not pose a health hazard to them.

Duration

Duration is a useful method of preservation, as high dose rates can be taken in very short periods of time. However, the cumulative dose must remain within the acceptable limits set in local regulations.

Screening

To reduce harmful radiation, high-density materials such as lead, depleted uranium or tungsten are used to absorb the emitted radiation.

When using X-ray equipment, it is necessary to take precautions against emitted radiation until the power supply is turned off or the equipment is locked. On the other hand, radioactive materials constantly emit radiation and it is not possible to turn it off. Consequently, closed sources of radiation must be stored in screened containers or warehouses in order to absorb and transport unwanted radiation.

Exposure Limits

Radiation doses received by workers will always be kept to the lowest reasonably achievable. Under no circumstances will the doses go beyond the limits specified in the legislation for persons working with radiation and persons not working with radiation.

Special controls will be applied for people who are or may be pregnant. Absolutely no occupational exposure will be allowed for persons under the age of 18. Cross-border exposures will be reported promptly to the REC MAOG Project HSE Department.

7.3.15.3 Classification of Personnel

In order to control human exposure to radiation, all employees and subRECs will be classified as either radiation workers or non-radiation workers, depending on their training and requirements to use radiation sources. Classification does not guarantee security; safety procedures and appropriate equipment will always be used.

Those Who Work with Radiation

A person working with radiation means an occupationally exposed person or employee whose job involves routine ionizing work and who is reasonably likely to be exposed to radiation from a radioactive source.

Persons working with radiation are also classified as Competent Persons or Radiographers. Competent Persons do not normally use radiation sources; however, they are capable of



overseeing both routine operations and emergencies involving radiation through training and experience. Radiographers are expected to safely use radiation sources in the course of their work and are required to have a valid Permit to use Ionizing Radiation Producing Material/Equipment before working with a radioactive source.

When working with radiation, radiographers are required to carry two personal radiometers, one with a pocket-held direct-reading radiometer and a fixed integrated radiometer (shield film or thermoluminescent radiometer).

Those who do not work with radiation

Persons who do not work with radiation should not receive more radiation than the dose limits determined in the legislation.

7.3.15.4 Responsibilities for Safe Use

The Project Manager and REC MAOG Project HSE Manager/Chief are responsible for all matters regarding the safe use, storage and transportation of industrial indoor radiation sources and x-ray equipment used in the project site.

Sub-REC:

The subREC will appoint a competent person to be responsible for direct supervision and enforcement of instructions and standards. The subREC and personnel involved in performing the non-destructive testing shall be certified and have a valid Permit to use Ionizing Radiation Producing Material/Equipment.

An X-Ray Permit System is used at the construction site. The duration of the permit will not exceed 1 day and will depend on the risk assessment. The permit gives any measurements regarding the area to be barricaded and other mitigation measures.

X-ray activities are carried out outside of normal working hours in order to limit risks. Before the start of the X-ray, a list of the workers present at the construction site will be made. All companies in the construction site will be informed about X-ray activities and mitigation measures 12 hours in advance.

Radiograph

At the start of each shift, radiographers will make sure that all equipment is in safe working order. All malfunctions will be reported to the supervisor immediately. They will also make sure to wear a thermoluminescent light meter or a film shield and direct reading light meter with the radiograph charged and reset and working. It is obligatory to have one radiation observation device for each radiation source in use. The equipment will be transported to the construction site with security locks on it. Under no circumstances shall equipment be transported in the dismantled or open position.

Upon arrival at the work site, and with any closed source of radiation, the radiographer shall ensure that persons not working with radiation are not exposed to radiation exceeding allowable



radiation levels. Radiation areas must have radiation warning signs and these signs must be clearly visible around the radiation area. In addition, a rope or strip barrier will be placed around the radiation area in crowded work areas. The area will be checked with an approved radiation measuring instrument to provide a safe area for those not working with radiation. More information on industrial radiography can be found in the Turkish Code of Practice on the Industrial Radiography Radiation Protection License.

A report on the condition of all equipment will be submitted to the supervisor on a weekly basis.

7.3.15.5 Shipping and Transport

- Government Permits are required for the shipment of radioactive materials into and out of Turkey. Additional information can be obtained from the Turkish Atomic Energy Agency and the Ministry of Energy and Natural Resources.
- A locked container is required outside the passenger compartment for the transportation of radiation sources to business areas. There will be radiation signs behind and in front of the vehicle.

7.3.15.6 Storage Areas

- Radiation sources will be stored outside the construction site. If this is not feasible, each indoor light source will be returned to the storage area approved by the REC MAOG Project Project Manager and the REC MAOG Project OHS Manager/Chief upon completion of the work or after each working period. Storage will generally be within a fenced area.
- All permanent and temporary storage areas (warehouses) will be approved by the REC MAOG Project Project Manager and the REC MAOG Project HSE Manager/Chief. Radiation measurements will be made around the storage area and the radiation level will be within acceptable limits. All storage areas will have radiation markings on the barriers. A logbook will be kept regarding the radiation sources in the warehouse, and the authorized person responsible for the closed beam source will be recorded as to who made the entrance or exit of the closed beam source to the warehouse.
- Enclosed beam sources, whether locked or not, shall not be stored in the back of trucks.

7.3.16 Lockout and Tagout

- In order to control the risks arising from activities related to energy resources before working on it, the lock and tag before commissioning procedure has been developed. All types of energy, such as kinetic, hydraulic and electrical, are defined in the Lock and Tag Procedure.



- Before starting work within the scope of the Work Permit Procedure, an insulation certificate will be required for energy insulation throughout the construction phase.

7.3.17 Food Processing, Storage and Personal Hygiene

7.3.17.1 Kitchen Staff

All kitchen staff will be given two pairs of uniforms, aprons, caps and safety shoes. These people will have a clean, neat and tidy appearance, and their nails and hair will be short. They will not wear jewelry while working.

Kitchen staff will be meticulous about personal hygiene, they will wash their hands before touching food after touching anything else. All kinds of health disorders, including cuts, fever, will be reported to the supervisor, and this person will assign someone else instead of the person concerned until medically authorized. The kitchen staff will have regular porter examinations or hygiene training in 3-month periods.

7.3.17.2 Food Storage

- Refrigerator and freezer devices will be provided. Frozen foods will be thawed in refrigerator cabinets. The devices will store frozen foods at -18°C , cold foods between -3 and $+1^{\circ}\text{C}$, and food in the refrigerator between 1 and 4 degrees.
- All cooked food will be kept separate from uncooked food. Fish and meat will be kept in their own freezers.
- Freezer / Cooler rooms will have built-in lighting. There will be an external heat meter and the tank can be opened from the inside. Sufficient food will be stored to prepare meals in case of emergency.
- Food will be stored in a first-in, first-out system. Storage will be done on high shelves. The food warehouse will be kept clean, tidy and free of insects. No cleaning agents will be kept in food warehouses.

7.3.18 Construction Site and Management

7.3.18.1 Construction Site Layout

- The REC MAOG Project will provide employees and subRECs with a plan showing how the space allocated for temporary facilities will be used.
- Good management will be implemented by the REC MAOG Project and subRECs in all parts of the site, including roads, walkways, temporary buildings and work areas.
- The REC MAOG Project and its subRECs will construct adequate and appropriate footpaths to all areas of the construction site to which personnel must access.
- Dust control will be implemented by the RECs in order to prevent the hazards caused by dust in the work area.
- Roads and footpaths will be provided and every effort will be made to keep mud, mud and other slippery materials away from roads and footpaths.



- Unused materials and construction equipment will be stored securely so that they do not interfere with other site activities or cause potential harm to site personnel.
- Cables and air and water hoses shall be kept in a place where they will not be damaged and will not cause damage or injury.
- If installed in roads or conduits, cables and hoses will be placed in a shielded conduit or hung over a road or pavement. It shall also be clearly labeled and marked. Personnel will not take their personal vehicles out of the parking area.

7.3.18.2 Hygiene

- Temporary Facilities will be used according to the highest standards of cleanliness and hygiene.
- All garbage and leftover food in the dining areas will be dumped daily into the containers placed in the dining area for this purpose.

Cleaning and order rules will be applied to all personnel working at the construction site.

7.3.18.3 Construction Site Wastes

- Waste materials will be collected immediately and will be taken out of the construction site on a regular basis, without any problems, by storing them properly as long as they are in the construction site.
- All kinds of combustible waste materials will be removed from the interior of the buildings at the end of each shift and placed in waste storages located at least two meters from any structure. This distance is practicable and will be increased where possible.
- The areas around fire exits, exits, stairs, hydrants, monitors or fire extinguishers and the roads leading to these areas shall be kept clear at all times and shall be free of obstructions.
- In case of spills of flammable materials on floors, floors, equipment and collection containers, they will be cleaned up immediately.
- The areas outside the storage areas and around the structures will be kept clean and the accumulation of rubble will be prevented.
- All nails with dislocations on the materials within the construction site will be hammered or removed.
- Vehicles carrying these materials will be subject to the same regulations as other vehicles that are subject to a permit to remove materials from the construction site.

7.3.19 General Safety Rules

- HSE notice board or similar will be found in the camp area and the published advertisements will be followed and followed.
- Employees will comply with all signs and instruction labels placed. In case of doubt, employees will seek instructions from their supervisor or the person responsible for security.
- No visitors will be allowed to work areas without a supervisor or manager.
- Fighting, wrestling or other physical banter is strictly prohibited in the work area.
- Employees using prescription drugs will inform their supervisors before work.



- Equipment, tools, machinery, tools, materials or scraps shall not be taken out of the work area without the approval of the supervisor.
- Tools, apparatus or equipment that have been quarantined or labeled "out of use" will not be used.
- No tools, apparatus or equipment will be modified without the approval of the supervisor.
- It is forbidden to use mobile phones while driving.
- It is a project rule that the headlights are on while driving during all kinds of movement of the vehicle and this rule will be followed, including all kinds of roads.
- Employees will not be allowed to travel with any equipment or vehicle, especially if a seat is not available and a seat belt is not fitted.
- All equipment and vehicles will be parked at a safe distance from terraces and ditches.
- Employees will not be allowed to sit or lie behind or in front of parked equipment or vehicles.
- Unless otherwise stated, all cables in the working and camping area will be deemed to be "electric" and necessary precautions will be taken.
- The use of handheld telephones or radios in the vicinity of electric detonators, ignition fuses, fuels or flammable materials storage areas is prohibited.
- Working under electrical wires will be avoided as much as possible. Where avoidance is not possible, a supervisor and a marker will be assigned to monitor the activity.
- Cable management will be provided in all work areas. Cable clutter will be avoided as much as possible.
- Appointed mechanics or technicians will make repairs to equipment or tools. Other workers are prohibited from making repairs.
- The use of hand-made tools is prohibited.
- Protectors of equipment or machinery shall not be removed. Moving or rotating parts of the equipment shall not be touched. Attention will be paid to equipment with self-starting warning signs.
- The guards of the angle grinders will not be removed for any reason and only discs with appropriate speed will be used.
- Except for repairs, no safety equipment or guards on tools and equipment shall be removed during operation. These safety equipment or guards are to be fitted after repairs and before the tool or equipment is used again.
- Be sensitive to unusual sounds that may be an early warning of any malfunction. In case of doubt, stop the machine, immediately report to the supervisor and stay with the inspections until a qualified technician arrives.
- Overloading will not be done on the transport vehicles.
- While working in hot weather, regular breaks will be taken and the body will be cooled by drinking cold drinks. In cases where employees feel unwell, they will request medical attention. Unnecessary risks will not be taken.
- Working alone will be avoided in areas where there is no other personnel in close proximity. A lone staffing policy will apply, limiting solo work to only those situations where it is necessary (for example, confined spaces) and staff using electronic safety devices.
- Employees under the influence of psychological problems that prevent safe working will inform their supervisors.



- A full copy of the Turkish law on HSE protection will be available at the REC MAOG Project site office during the construction period.
- Unless otherwise stated, the speed limit within the Project site will be 20 km/h.
- While the vehicles are in motion, the occupants will always be seated and seat belts will be fastened.
- Persons will travel with all parts of their body completely in the vehicle.
- With respect to the possession and use of alcohol and drugs, the REC MAOG Project has the right to deny, suspend, or revoke access, forcibly remove or otherwise allow any person to enter, access, or control any property owned or controlled by the REC MAOG Project. reserves the right to prohibit. The REC MAOG Project may notify law enforcement of such criminal violations.
- Persons are in the presence of moving machines, engines, etc. shall not wear rings, jewellery, loose or loose-fitting clothing, or carry cloths or other objects hanging from pockets or belts. Personnel will not wear shorts on the construction site.
- Employees must immediately report any accidents they are involved in to their supervisors.
- Before use, any tool or equipment must be checked by the user for damage or malfunction to ensure they are working safely and properly.
- Work and walking surfaces shall be clear of any snagging hazards, including truss studs, support rods, wall anchors, or toothed gun nails that may hang vertically from beams or other surfaces.
- Safe working procedures will be followed throughout all construction work to ensure that no part is ever left without adequate support. No crane slings shall be lowered until the part has been secured in place by other means.
- All steel construction work will be performed by qualified personnel using all necessary personal protection equipment, including fall protection equipment.
- All unfinished structures will be left in a safe and sound condition sufficient to withstand predictable weather conditions at the end of each operating period.
- All temporary floor covering structures constructed to provide access shall be securely anchored in place and in accordance with the requirements of Section 7 above.
- Safe access and fall protection systems will be installed and, if necessary, inspected/tested before they are needed.

7.3.20 General Rules of Discipline

The following irregularities will be considered serious and will result in immediate and indefinite banning of persons committing such acts on site, unless there are mitigating circumstances that would require the imposition of lighter sanctions:

- Sleeping or napping at work
- Violating any penal law,
- Having a disease that may endanger the people working with him,
- Neglecting the duty or putting another person's life in danger by using or using belongings while on the construction site,
- making jokes or violating any safety rules,
- Borrowing or giving away personnel identification equipment,
- Threatening or putting pressure on others,



- Climbing fences or entering or attempting to enter or exit the construction site from other places other than through regularly assigned gates,
- Repetition or habituation of less serious irregularities
- Refusing to allow the packages or bundles to be checked by the authorized person while entering or exiting the construction site,
- Altering or falsifying time records.

7.3.21 On Line Work

Rules and methods to be followed regarding the works carried out on and around the railway (level crossing, live line and works carried out near the catenary line, etc.) explained.

7.3.21.1 General Risky Situations

- Always take your flashlight, you may have to move on unlit roads. Be sure of where to step.
- Remember to always wear high-visibility clothing or vests, make sure other people can see you.
- While going to the workplace by road, do not commute at a higher speed than allowed. Keep the safety distance at all times.
- If you are walking along the line when the railway is not closed to traffic, do not go out of the Safety Zone.
- Never take alcoholic beverages. These will reduce your reaction, perception and vision capacity.

7.3.21.2 Prevention of Risks at Workplace

- If you have to walk along the line, never go alone.
- We have to pay attention to both sides of the double line and round trip. To get out of the line in a dangerous situation, never run towards the outside of the lines, not between them.
- If you have to cross a parked formation or close to a machine, calculate that any movement of it may endanger you and adjust your crossing distance accordingly, see if there is a commute close to another line.
- Be sure to take into account that a train line you see can be round-trip, not just one-way.
- When getting on and off railway vehicles, never get on the outside, not between the lines.
- It is forbidden to transport vehicles and objects whose maximum dimensions are above the gauge gauge.

7.3.21.3 Works Close to Catenary Lines

- It will not approach the distance of less than 2 meters to the catenary line under voltage.
- In the parts under voltage, the platform shall not use ladders or portable ladders.
- Overhanging or broken wires will not be approached less than 10 meters away.
- All wagons on the roads in areas with catenary will not be allowed to climb onto the tops and landings, even for maintenance, repair or similar reasons.



- Never forget that there may be electricity on the rails.
- Long metallic elements will always be transported in a horizontal position.
- When a rail is changed or cut, connect the electric current externally to ensure the continuity of the electric current on the rails.
- When any line is live, the machines on the line will have arm height limiter and it will be ensured that they are operational.
- Before starting the work on the power cable, permission must be obtained from the authorities and it must be ensured that the equipment where there is no voltage during operation is grounded and short-circuited.
- It will never be possible to climb to the top of the vehicles without making sure that there is no electricity on the train power lines.
- It will never be worked outside of the neutral document that has been determined.

7.3.21.4 Metal Bridges

- First of all, existing gaps will be filled with boards, nets, platforms, etc.
- Use thick tarpaulin or nets in case there is a risk of falling materials to third parties.
- If the above precautions cannot be taken due to the type of work or the short duration of the work, fasten yourself to a solid place with a parachute type safety belt.
- If the bridge does not have them or if they are in poor conditions, longitudinal guardrails will be installed at the side edges.

7.3.21.5 Tunnels

- On the round trip lines
 - Before starting work, you should know the location of the nearest shelter or shelter.
 - Special attention can be paid to the Safety Pilot's warning sign
- If a train or a construction machine caught you prematurely in a tunnel before you had time to escape to the shelter, check the oncoming vehicle and lie down in the Safe Zone.
- When using ladders:
 - Anti-slip shoes will be available.
 - Place the ladder on a flat and firm surface, if this is not possible, place the ladder on a flat and non-slip plate.
 - If these are not possible, have another worker hold the ladder.

7.3.21.6 Ballast Discharge

- Irrigate the ballast to reduce dust extraction.
- Noise and breathing shields shall be used at all times during evacuation.
- When ballast laying is done by train, radio should be used by auxiliary personnel to maintain permanent contact with the train driver, as well as to prevent stacking that could cause derailment of that train or rollers.
- When the train stops, close the doors immediately.
- Do not climb on the train, use the ladder.

7.3.21.7 Unloading the tracks

- Unloading the tracks from the train
 - The unloading process is very delicate. Fix it to a fixed point with a strong cable through the hole on the rail.
 - Do not stay within the radius of the cables used.
 - The starting speed of the train will be very slow until the cable is stretched. At a minimum length of 36 m, the speed will be increased to 10 km/h until the rail contacts the ground, then the speed will be reduced to 5 km/h.
 - Due to its sudden fall, we pay maximum attention at the very last moment of unloading. No one should stay around here.
- Simple Rail:
 - If unloading is done by crane, the distance between the attachment points of the rope will be as follows: 7 m when the bar is 12 m long and 11 m when the bar is 18 m long.
 - If the unloading is done with the Vaicar with the help of the clamps, the rails will be taken from the middle point without anyone within the possible radius of rotation of the rail.
 - If unloading is done manually, the process should be managed by an experienced worker. The rails are slid on well-lubricated base beams located on the side of the transport platform. The distance between the floor beams shall not exceed 6 meters and the slope shall not be less than 30°.
 - If unloading is done with the line's Vaicar type reversing excavator, the center rail should be removed and no persons should be within the possible turning radius of the rail.

7.3.21.8 Unloading of Sleepers:

- Transactions should be managed by only one person.
- There must be no persons under suspended load and within the radius of action of the machinery used.
- Never perform traverse lifting and lowering operations by inserting iron rods into the traverse holes, use suitable clamps.
- Always consider the possibility of contact with train power lines when loading, unloading and stacking sleepers.

7.3.21.9 Cutting the rail (oxide cutting and grinding motor))

- Before cutting, electrical continuity will be supplied to the rail.
- Fire extinguishers will be available at the workplace.
- If cutting is done with oxide cutting:
 - Make sure that gas cylinders have flame arrester valves.
 - Make sure that there are no effects that will damage the hoses (cutting, burning, shredding)
 - Wear a welder's mask, dust mask, and welding-related arm and body protective clothing.



- In case of grinder use:
 - Do not carry the grinder while it is running.
 - Check that the protection of the stone is complete and correct.
 - Use the rail fixing bracket. See figure.
 - Do not leave the machine with the engine running.
 - Always direct the cutting process so that sparks do not cause a fire. If necessary, use protective curtains.
 - Always use face shield, gloves and dust mask.

7.3.21.10 Construction Works

- Necessary warning signs and barriers will be placed on the edges of the channels of drainage and ditches, necessary markings will be made, and falls from height will be prevented.
- Barriers will be placed at the slopes at sufficient safety distances.
- Adjustable ladders will be used to enter and exit drains and ditches.
- When any excavation is made, barriers and safety nets of sufficient strength will be installed around it.
- A safety distance of 5 m to overhead power lines will always be maintained. If there are vehicles coming and going under these power lines, mechanisms with warning signs (like a goal post, clearance control) will be placed.

7.3.21.11 Preparation of Slopes and Trenches

- Loose materials at the beginning of the slopes and on the surface should be cleaned.
- Signs should be made to show that there are people working at the beginning of the slopes.
- If climbing is to be done through the wicker bars laid for slope protection, technically trained persons and appropriate personal protective equipment should be used for climbing.
- Before starting work, check and verify that the equipment of the safety personnel is appropriate and that the ropes are perfectly anchored to the solid elements at the head of the slope.
- Careful attention will be paid to the instructions of the safety pilot in the works to be carried out with construction equipment on the slope surfaces.

7.3.21.12 Heavy Machines on the Line

- An audible alarm will be made before initiating any action.
- Always run to the outside of the tracks in case of danger, where there is more than one track.
- Do not climb or disembark from operating machinery.
- Get on and off the work machine via the transports built into the machine.
- Make sure that the working surfaces are free of oil spills and combustible materials.
- Do not leave materials in the passageways of the machine.



- Only when you are completely sure that there is no current can you climb on the machines.

7.3.21.12.1 Remover

- If you will be close to the machine, always use sound shields, hard hat and mask.
- Never cross the tape indicating the safety zone while the machine is running.

7.3.21.12.2 Ballast Wagon

- Workers close to the machine will be protected with goggles, sound protectors, hard hats and dust masks.
- When replacing the laying container, do this when the train stops.

7.3.21.12.3 Profile (shape) Transmitter Machine- Regulator to the Material

- Stay out of reach of the machine.
- This machine is a fast moving machine, be very careful.
- Before starting to move the machine, verify that the plows, sweepers, removal plates and attachment brushes are folded and secure.

7.3.21.12.4 Stabilizer

- While the machine is in operation, stay away from the movement area of the beaters.
- Protect yourself against ejection of ballast stones, use helmet and eye protection, as well as sound protectors.

7.3.21.12.5 Rail Excavator

- Before the operator starts his movement on the rail, he should check that the iron wheels that provide the movement on the rail and the normal rubber wheels are in proper contact.
- The operator must ensure that no one is within the working radius.
- The operator must see the load at all times. If this is not possible, a pointer should be assigned.

7.3.21.12.6 Crawler Gantry Crane

- Workers will be located outside the reach of machines and outside the area of suspended loads.
- The transport of persons and objects on the machine is prohibited.

7.3.21.12.7 Crane and Basket Equipped Machine (rubber and iron wheel)

- For the side movements of the basket and the crane, it should be ensured that the trains on the parallel line do not have commuting.
- Safety distance should be provided with power lines.
- When the crane is used, no persons shall be under the suspended loads.
- Do not make any additions etc. to provide extra height in or on the basket.



- Before starting work, lock the existing lock so that the basket cannot rotate.
- Do not go up or down from the basket while the machine is in motion.
- Use a hard hat, be careful against contact with different elements (clamps, cables, etc.) in the establishment of electrification.

7.3.21.12.8 Nailing Motors and Impact Wrench

- If you are going to change the bolt in the mouth of the machine, be sure to stop the engine.
- If you are going to change the machine rotation direction from tightening to loosening, make sure to stop the rotation and change it later.
- Use suitable sound protectors.

7.3.21.12.9 Rail Cutting Machine

- The protector will be set correctly.
- Both hands will be used to hold the machine.
- Any part of your body will not touch in the direction of cutting.
- Do not start the stone engine without the cutting or clamping arm pre-assembled. (First fix, then run)
- Do not allow anyone to stand in front of this machine during cutting.
- When cutting with a cutting machine, always use eye and sound protection, welding clothing and shields.

7.3.21.12.10 Rail Grinding

- When cutting with a grinder, always use eye and sound protection, welding clothing and shields.

7.3.21.12.11 Rail Cutting Clamp

- Before starting to work with this machine, make sure about the stability of the machine.
- Before starting work, verify that nobody is close to the rails you will be using.
- Make sure there are no obstacles on the rail. These may cause the machine to topple over.
- On curved lines, make sure that the machine does not invade the adjacent line and create a hazard.

7.3.21.12.12 Rail Positioner

- Make sure that the hoses are not pinched by any element.
- Verify the tie-down jack loops against the rail.

7.3.21.12.13 Rail rotation switch

- Do not use force, there will be no clusters in the direction. The machine can escape and crash.



- When moving the rail, do this by moving to one side of the rail, not centering the rail between your legs.

7.3.21.12.14 Rail transport hooks

- Rail and traverse clamps will be used by two people.
- When the process is inside the equipment, the maneuver will be managed by only one human and operated with the needed fixing points so that each worker cannot carry more than 25 kg.

7.3.21.12.15 Lifting Jacks

- When using the upgrade jacks (Rover):
 - Verify that there are no worn teeth.
 - After raising it with a jack, make sure to fix the fall arrester.
 - In case of raising the whole line, use two jacks simultaneously.

7.3.21.12.16 Transporting tools with Diplorys

- No workers will climb to the platforms on the diplorys. When needed for loading and unloading operations, the vehicle will be stopped and chocked appropriately.
- The loading on the platforms will be done in a way to distribute the load equally and not to exceed the edges. Where necessary, buffers or wedges will be used to prevent the load from moving.

7.3.21.13 Electrification Works

- The steering of the suspended post or porch will be done by workers assisting with routing lines.
- Suitable slings and poles and verandas will be connected at points designed for this purpose.

7.3.21.13.1 Works on Poles

- Make the ascent and descent of the pole with hydraulic platforms or baskets.
- If hydraulic platforms are not available, work by attaching the parachute type safety belt to the steel rope called the lifeline.
- Do the lifting and lowering of materials by tying them to a rope or rope.
- Do not allow two workers to work together in vertical distance.
- Safety distances to voltage lines will always be observed.

7.3.21.13.2 Laying the Cables

- During the tensioning process of the electrical cables, stay away from the radius where the cable can break and have a whipping effect.
- Make sure that the tension rollers are in the correct position and that the brake system is in working order.



- A trained worker will control the laying speed by checking that the swivel retainer of the coil's supporting jacks is operating while the cable is being wound.

7.3.21.13.3 Security Systems and Telecommunication Works

- The ascent and descent from the masts will be made with double mooring gear safety harnesses and with hands independent of equipment and materials.
- For jobs where the danger zone is exceeded, the presence of a Safety Pilot will be mandatory.
- No safety pilot is required for work outside the safety zone, but it is necessary to mark the work area with safety tape or net.
- Before starting work on power lines and network transformers, it must be ensured that there is no voltage.
- Materials and equipment to be used in the work should be stacked correctly in order to be disposed of or transported in the same way, in a way that they will not be trampled or crushed by the railroad round trip.
- In laying the cables, the reels shall be placed outside the hazardous zone, except as specifically specified by the Safety Pilot or the person in charge of the works.

7.3.21.13.4 Protection Systems – Signaling

- Work will not be started before the signaling is placed.
- Pilot's instructions and signs will be followed at all times.
- When the pilot's signal is heard, it must be out of line.
- The machines of the line will use the following audible signals in their work to alert:
 - When the machine is to be started or to make a stop
 - Even when there will be a change of direction
 - When there is a railroad round trip on the adjacent line
 - When the machine moves from one point to another without running

7.3.21.13.5 Protection Systems – Communication with stations

- It will be used (Pilot) to be in permanent communication with the command station and to be informed about round trips.
- Mobile phones, cordless phones and communication headsets will be used as indispensable tools for the coordination of works and for emergency operations.

7.3.21.13.6 Voltage Disconnection

5 GOLDEN RULES to achieve de-stressing

1. Cut off all electrical current.
2. Block all devices of the cutting process.
3. Verify that there is no voltage.
4. Ground all possible voltage sources and short-circuit them.
5. Limit and signal the working area.



7.3.21.13.7 Return cable (Protection systems)

- It is used to ensure the continuity of the current in the rail.
- Before starting the cutting of the rail, the pilot will be informed which of the electrified lines is the common or return rail.
- In case of common rail cut, return cable will be installed.

7.3.21.13.8 Rod transferred to another line (artificial hold of the line)

- Take precautions when removing it, as the clamp generates a high pressure and can catch fingers. Fasten the clamp securely or do this with the foot.
- It will only be used with the operator sign.

Protections against fires

It should be verified that fire extinguishers are not expired and placed in visible places.

Signalization

Obey the signs.

Storage

Combustible products should be stored away from personnel facilities and away from heat sources.

CO2 Extinguishers

It should be used to extinguish electrical fires.

Powder Extinguishers

They are used to extinguish fires caused by solids, liquids or gases.

Management of Pollutants

They are classified as physical, chemical and biological origin.

Physical

- Humidity of the environment and its temperature: climate, pouring of concrete, spreading of the cluster
Effects caused by: fatigue, dehydration, heatstroke, muscle cramps, drowsiness, chills, chills
- Noises: machines, tools, hammers
Effects caused: Tension, bad temper, increased arterial tension, difficult communication and loneliness, deafness
- Vibrations: Air hammers, machinists
Effects caused: Joint injuries, traumas, arthritis, loss of strength and attention
- Radiations: Soldering, compression tests, welding controls
Effects caused: Conjunctivitis, cataracts, retinal tears, burns, nausea, vomiting, cancer



- Lack or excess of lighting

Effects caused: Fatigue, increase in errors and accidents

PREVENTIVE MEASURES

- Use the appropriate Personal Protection Equipment for each job and keep the machines and their guards in good condition.
- Appropriate work time
- Proper lighting and ventilation

Chemical

- During production, operation, transportation, storage or use, any organic or inorganic material, in the form of dust (crush, excavations, explosion, etc.), smoke (soldering), gas or vapor (solvents, chemical products, toxic gases) or added to the environment in the form of fiber (asbestos).
- Their effects can be irritating, corrosive, suffocating or poisonous. The mode of entry into humans is through the respiratory system, skin, ingestion or hereditary (injuries)

PREVENTIVE MEASURES

- According to their status, they are:
 - Removal of polluted air and supply of fresh air
 - Filters, proper ventilation
 - Appropriate personal protection for all occasions (gloves, boots, clothing, masks, breathing equipment, etc.)
 - Proper hygiene (natural soaps, hydrating creams, etc.)
 - Verifying the absence of toxic gases when entering a confined space

Biological

- Risks posed by human, animal or plant origin or by their derived substances that may cause negative effects on the health of workers and cause infection, poisoning or allergic process.
- Propagation tools include:
 - Water: Infection and parasitic agents, especially the way they are released in the intestines, are an important figure. Caused by swallowing contaminated water.
 - Air: Its emission occurs through ventilation facilities and the atmosphere.



Soil: The disease (tetanus) can be a source of infection from the bites of parasites or poisonous animals.

Animals: They are the spreading agents called animal disease.

Raw materials: They are tools for the development of microorganisms.

PREVENTIVE MEASURES

- Medical recognition and vaccines
- Appropriate healthcare facilities
- Checking personal hygiene (showers, washes, closets)
- Control of troubles
- Elimination of dusty atmosphere
- Elimination or reduction of dusty atmosphere
- Cleaning methods and disinfection of places should be considered as the type of pollutant to remove.

Joint protections

- The most general forms of internal signaling and protection used in gas transmission (Metallic mesh + Plastic tape)
- Illumination lights in the passage under voltage overhead lines (Banded cable + Pole + Mark at maximum height)

Other

Order and cleanliness

- Order and cleanliness must always be maintained at work to prevent possible accidents.
- Standards should always be set in order to maintain the order and cleanliness of the work, which must be known and followed by the workers.
- Transition zones, exits and roundtrip lines must be free from obstructions.
- Workplaces and their equipment and facilities will be cleaned periodically to keep them in appropriate hygienic conditions and these cleaning operations will not constitute a source of risk for the workers performing this work.

Transport of dangerous items:

Gasoline, fuel, propane, acetylene

- Safety drums will be used to transport small volumes of liquids.
- Canisters will be marked by marking their contents (labeling of hazardous materials).
- These substances shall be prevented from being close to sources of combustion.
- These products will always have a security index card.



- Gas bottles will be transported in a suitable safe way to prevent falls.

Emergency procedures

- To get help in the event of an accident, remember that the Chief of Equipment or Foreman is likewise the radiotelephone of the first-aid protection.
- At the workplace leg, next to the injured person, you can show better transport and routes so that an ambulance can come to help your colleague.
- Remember that only minor injuries, cuts, bumps can be healed with first aid.
- Before you doubt how to act, seek help and wait for instructions. Lack of preparations and haste can create risks with serious consequences for the injured person.

Dangerous Work Permit Rules

- Permit to Work for Dangerous Works (Any work that affects the integrity or availability of security or emergency systems (E.g. fire pumps, main fire pipe, closure systems, fire and gas detection))
- Plant and equipment pressure testing
- In works involving dangerous chemicals (flammable, toxic or corrosive substances)
- Pressure tests (Hydraulic – Pneumatic)
- Works at Night
- It should ensure that all employees involved in the work are aware of the dangers, risks, rules and limitations mentioned in the work permit.
- Before the work permit, training the employees within the scope of the ITA in the annex of the permit within the scope of the existing dangers and risks should ensure the implementation of the TRIC card.
- He must ensure that a copy of the work permit is available in the work area as long as it is active and valid.

The authorized person who will carry out the work ensures that the work permit is not limited to the following works.

- It should identify the hazards before and during the work and ensure that the necessary precautions are taken.
- All non-routine REC activities
- Non-routine jobs or processes involving hazardous chemicals
- Works involving medical gases
- Fire detection and extinguishing works
- Electricity Works
- Steam



- Studies involving pressure systems
- Studies covering energy systems and mechanical systems

The work permit is not valid until all required signatures have been completed.

- Work without a Work Permit is stopped by the JHSU Occupational Safety Expert, MAOG HSE team or the SubREC security team, and the team is ensured to leave the work area. If the work permit is lost, the original work permit is canceled by determining the reason, the other copies are signed by JHSU, and a new permit is issued if necessary.
- The work permit is issued for the requested period of time, if possible in terms of operation.
- The person who receives a work permit is obliged to close the work permit. In case the work permit holder leaves the work area with the work permit document he/she carries, he/she must deliver the document to the JHSU Occupational Safety expert as soon as possible.

1. There must be secure entry and exit.
2. Barrier and warning signs must be present.
3. Periodic control of the equipment should be made.
4. If working at heights, employees should wear parachute type safety belts and helmets that are robust and comply with the standards.
5. Communication channels are working and should be appropriate.
6. Employees must have received training on the use of the equipment they will use.
7. All personnel who will work at heights must have been trained to work at heights.
8. The working area should be limited.
9. Personnel must be competent in the work to be done. For example, if he is going to weld he must have a Welder certificate.
10. The work platform must comply with the standards of the guardrail.
11. Employees must have received emergency procedure training.
12. The work floor must not contain the risk of slipping or tripping.
13. If necessary, tagout and lockout (LOTO) should be implemented.
14. The equipment used must comply with the standard.
15. Lighting should be in accordance with standards.
16. After work, the work area should be left clean and all equipment removed.

- **Hot Work Permit Rules**

Hot work permit must be obtained for hot work done outside of designated safe hot work areas, such as a maintenance workshop area arranged for safe cutting and welding activities.



- Work-specific Occupational Hazard Analysis should be prepared by checking the field studies.
- In operation areas, hot work should only be allowed if the work must be done and cannot be carried out in a safe environment.
- An authorized fire observer must be appointed during hot work activities.
- Functional, calibrated personal or stationary low-level measurement devices should be used to continuously monitor the level of flammable gases.
- Before starting the work, it should be checked that there are no flammable, combustible and explosive materials in the work area.
- In cases where it is not possible to remove it, necessary isolation/insulation measures (fire blanket, etc.) should be taken correctly between the flame and spark source and flammable explosive combustible materials. Hot works should not be carried out in areas where paint, pressure tubes, thinner, fuel oil are stored/stored.
- A fire watcher/observer should periodically test, verify and record the presence of gases in the ambient air prior to hot work; he must also be constantly on duty to detect and extinguish a fire during hot work.
- Any welding, grinding or cutting; Hot work work permit must be obtained from the Work Permit Coordinator before it is performed in an area classified as containing flammable materials and around the equipment.
- Persons performing gas tests and fire watchmen should have received training on both subjects.
- The competencies of personnel engaged in hot work should be evaluated and verified.
- Proper grounding should be done for welding machines. Cables and hoses should be checked daily by users.
- A work permit system should be applied for the hot works carried out in the areas determined after the risk analysis. Hot work permits should only be issued by trained and competent employees. The duration of the permit should not exceed 1 day.
- Before each hot work, sufficient number and type of fire extinguishing systems should be kept in an easily accessible area, close to the working area, in accordance with the materials and risks around.
- Operators using equipment/tools included in the scope of hot works should be given technical training on the tools they use.
- Personal Protective Equipment (PPE) suitable for hot work by employees should be used and PPE requirements should be specified in the work permit forum.



- Hot work permits are given for a certain period of time, not more than a single work shift. The following steps should be followed.
- The work to be done must be fully defined.
- Areas and equipment affected by the work should be explained.
- The persons who will carry out the work should be determined
- Potential risks associated with the study should be identified. (In some cases, job hazard analysis ITA can be done at the beginning of the job.)
- Work-specific equipment should be provided for hot work.

1. Safe entrances and exits to the area should be provided.
2. There should be no uncontrolled flammable, combustible or explosive materials within the area with a radius of 10 m.
3. Combustible materials that cannot be removed from the environment should be surrounded and isolated with a barrier.
4. Precautions should be taken against sparks that may occur in welding, cutting and drilling work.
5. A fire extinguisher should be available in the area where hot work will be carried out.
6. A trained observer should be present in the area where hot work will be carried out.
7. If indoor work is to be done, gas measurement should be made and if the limit values are exceeded, the work should not be started, ventilation should be done.
8. All employees must wear equipment that conforms to the PPE matrix.
9. There should be adequate lighting and ventilation in the environment.
10. Energy supply and source cables must be grounded, jointless and insulated.
11. The area should be left safe and clean.
12. If possible, the floor should be wetted before starting work.
13. An interim check will be made 15 minutes after the end of the work.

Rules for Working with Biological Agents

1. Smoking, eating, drinking and wearing make-up are prohibited in the workplace.
2. Hand washing units are provided with soap and disinfectant under appropriate conditions.
3. Hands should be washed before eating, drinking and smoking.
4. Open wounds should not be worked on, the wounds should be disinfected and cleaned and bandaged.
5. First aid kits should be kept in all areas where biological agents are handled and the contents of the bags should be checked regularly by the first aid team.



6. Equipment suitable for the personal protective equipment matrix should be used by the employees before entering the work area, and the protective equipment should be stored in places where it cannot be contaminated with biological pests and cannot contaminate the clothes worn outside.
7. Technical controls of personal protective equipment and respirators will be carried out regularly by employees.
8. While the wastes are being collected, controlled entrances to the waste areas will be provided and waste-specific disposal will be made.
9. Regular cleaning and disinfection will be carried out in areas at risk of exposure to biological agents and their records will be kept by the Cleaning team.
10. There will be mechanical or natural appropriate and sufficient ventilation system in every area, hepafilters in high-risk areas will be changed periodically.
11. Persons working with biological agents will be monitored with periodic examinations and employees will be informed about health control results.
12. Employees exposed to biological agents and their work will be recorded and their name lists will be kept in the archive for 10 years.

Protection from Risks Related to Noise

1. Maintenance operations are carried out in accordance with the 5-year maintenance plan for the workplace, workplace systems and work equipment.
2. Within the scope of the Labor Law No. 4857, working periods are regulated with adequate rest breaks.
3. In order to prevent/reduce traffic-related noise sources, it is ensured that horns or sirens are not used unnecessarily in motor vehicles.
4. In case the highest exposure action values are exceeded, an action plan including technical or work organization measures is created and implemented. Workplaces exposed to noise are marked appropriately, it determines the boundaries of the marked areas and, if technically possible, ensures controlled access to these areas.

Protection from Vibration-Related Risks

1. Workers working in the garden or driving a golf cart may be exposed to vibration, their working hours are regulated according to the following exposure limits:

For hand-arm vibration;

- - For eight hours of working time, the daily exposure effective value should be 2.5 m / s².



- - Daily exposure action value for eight hours of operation: 2.5 m/s².

For whole body vibration;

- Daily exposure limit value 1.15 m / s² for eight hours of working time,
- For eight hours of working time, the daily exposure effective value should be 0.5 m / s².

2. In addition, the employee exposed to mechanical vibration is provided with clothing that will protect them from cold and humidity.

Working with Screened Devices

1. The employee should take care to stand 50-75 cm away from the computer screen and 20 degrees below eye level.
2. Every 15 minutes, focus on distant objects to relax the eye muscles.
3. Simple exercises and relaxation movements should be done.
4. The characters appearing on the screen should be in a shape and form that can be easily selected, should be of appropriate size, and there should be sufficient space between the lines and characters.
5. The screen image should be stable, there should be no flickering of the image and similar problems.
6. The brightness and the contrast between the characters and the background should be easily adjustable by the operator.
7. The screen should be adjustable by easily rotating it in all directions according to the needs of the operator.
8. It should be possible to use the display on a separate pedestal or an adjustable table.
9. Reflections and glare that may disturb the user should be prevented.
10. The keyboard should be separate from the screen and movable so that the operator's hands and arms do not get tired and can work comfortably.

General Ergonomics Rules

1. Since offices are places where people stay collectively and for a long time, maximum care should be taken to ensure that they are clean and well-maintained.
2. Adjustable furnishings should be preferred according to the body measurements of the personnel.
3. Continuously used devices should be within arm's reach of the personnel.
4. Constantly referenced tables, graphs, etc. work aids should be legible, clear and easily perceptible, and there should be no obstructing objects within sight of the personnel.
5. It should be noted that the movement direction of all on - off buttons is the same.

6. In general lighting, light sources should be placed as high as possible. Low light sources increase reflection and glare.
7. Local lighting should be used for sensitive and eye-tiring works, and the eyes should be rested by closing the eyes frequently and looking at distant objects.
8. Light-colored fixtures, glasses and shiny surfaces cause visual discomfort and glare as they reflect light. If this is the case, the lighting should be reduced and matte items should be preferred.
9. Ceiling lights should make an angle of 45 degrees with the work surface and should not directly hit the work point.
10. Having windows in the offices and keeping them open will have a positive effect on the motivation of the staff.
11. Using items that appeal to personality such as photographs, plants and paintings will strengthen psychological commitment to the working environment.
12. Jobs that require the personnel to constantly make eye movements between dark and light colors should be avoided.
13. Since office work requires high attention, continuous noise should be prevented and loud noise-making devices should be isolated.
14. In the office environment, the temperature should be kept around 20-22 degrees. The working position should be changed regularly.

7.3.21.14 Works on and Around the Railway Line

All personnel who will work on the railway line must have received the Working on the Line Training by TCDD and have been successful in the exam.

The safe zone is evaluated in three categories according to the vehicle speeds of the railway vehicles moving on the railway infrastructure.

0 km/h. ≤ 90 km/h. 220 cm distance from the line axis for velocities between

91 km/h. ≤ 160 km/h. 250 cm distance from the line axis for velocities between

160 km/h. For speeds above 300 cm from the line axis are the safe zone limits.

Velocity (Km/hour)	0-90	Between 91-160	Bigger than 160
B (cm)	220	250	300
A (cm)	145	175	225



Dangerous and Safe Zone Boundaries

Works in Hazardous Area:

- In cases where all and/or some of the works are carried out within the area defined as the red zone,
- Although all of the works are carried out outside the area defined as the red zone, due to the characteristics of the tools and machines used (tower, mobile crane, concrete pump, trans mixer, excavator, loader, backhoe loader, dozer, grader, forklift, drilling, bored pile and drilling machines, etc.) In case they violate the red zone and/or are in a position to do so during maneuvers and operations,
- Although all of the works are carried out outside the borders of the red zone, the red zone is affected due to the nature of the work done,
- Excavations and under-line crossings that may cause a depression in the red zone, collapsing of a part or a part of the production, violating the red zone

In such cases, the operation is defined as the red zone.



Works Performed Outside the Red Zone “Danger Zone”:

- If all the works are carried out outside the red zone and the studies do not affect the red zone in any way, such studies are considered to be done outside the red zone.

Works on Multiple Lines:

- In cases where there is more than one railway line on a single platform, conventional lines with different speeds built on separate platforms, and line sections where the distance between YHT lines does not allow to create a safe zone are called multi-line.
- The dangers caused by the restriction of the evacuation of the employees due to the interaction of the work area with the other lines and the railway vehicle traffic on the open side lines are taken under control with additional measures when necessary, and are shown in the safety plans.

Works on Bridges, Viaducts, Tunnels, Retaining Walls, Chest Splits, Line Sections on High Embankment:

- Bridge, viaduct, tunnel, retaining wall, crate splitting, high filling etc. of the construction, maintenance and repair works carried out in the railway infrastructure. are the works in which art structures remain within the working areas.
- Hazards caused by the restriction of the employees' discharge of the line due to the interaction of the work area with the artworks are controlled by selecting or developing appropriate safety measures and are shown in the safety plans.

Works on Line Sections with Electrification:

- The provisions of the Circular No. 641 “About the precautions to be taken in the areas where electric trains are operated, the points to be considered and the warnings to be written on the transport documents” shall be complied with.

7.3.21.14.1 Qualifications and Training of Persons Involved in the Works

Accompanying Officer:

- In order to ensure the safety of employees, railway vehicles and work areas, the duties, responsibilities and qualifications of TCDD, subsidiary and subsidiary personnel and other public institutions and organizations or the REC / subREC assigned by the REC / subREC who will do the work are the person who has received training.
- Accompanying officer has to be assigned for the works carried out in the dangerous (Red) area.



7.3.21.14.2 Safety Precautions to be Used in Design, Construction, Maintenance and Repair Works

In order to control the hazards, the following safety precautions must be followed. If necessary, more than one measure can be applied together. If the chosen measure is insufficient, support from international sources will be sought. The minimum precautions to be taken in the works to be carried out on the line and in the impact area are as follows.

The design related measures will be implemented including the development of a Hazard Log, during the development of the final design.

1. Works Performed by Closing the Road

It is the work done by closing the railway line completely to train traffic for a certain period of time.

1. The start and end times of the road closure are determined in advance.
2. The line number to be closed and the boundaries of the line segment are determined.
3. The closed line segment is protected by appropriate markings.
4. If the scissors that provide train delivery to the closed line section are foreseen in the safety plan, they are kept in the opposite position and/or the scissors are locked at the end in the opposite position to the closed track.
5. The works are completed within the road closure process. At the end of the work, the security officer informs the escort officer that the line is suitable for opening to traffic or if any restrictions will be placed. At the end of the line closure by the accompanying officer, the line is opened to rail vehicle traffic by notifying the traffic control center whether there is any restriction that the line is open to rail vehicle traffic.
6. It is preferred if there are restrictive factors in the execution of the works and in the evacuation of the line, which will require new arrangements on the road and in the working area to stop the works at any time of the work and open the road to train traffic.

Road closure can be selected as a safety measure in the following cases:

1. In studies carried out in the red zone,
2. "Worked and/or side lines" in studies on multiple lines
3. Bridges, viaducts, tunnels, retaining walls, crate cuts, line sections on high embankment,
4. In the works that lead to changes in the railway infrastructure,
5. In works that threaten the integrity of the railway line,
6. In the works carried out by connecting or placing a tool or machine on the railway line,
7. In studies with machines moving on the railway,
8. Cranes, diggers, drills, loaders, etc. working with machines

2. Works Performed by Obtaining Regional Time Permit

It is the work done at certain hours in a restricted area on the railway line.



1. The line section where the works will be carried out and the start-end dates of the works are specified in the work plan.
2. The start and end times of the work are determined by the meeting of the accompanying officer with the Traffic Control Center during the day.
3. If it is foreseen in the safety plan, the switches that provide train delivery to the region where the region time permit is taken are put in the reverse position and/or locked in the reverse position.
4. The works are completed within the region's time permit. At the end of the work, the security officer informs the escort officer that the line is suitable for opening to traffic, if any restrictions are to be placed. The zone time permit expires when the accompanying officer informs the traffic control center that the line is open to railway vehicle traffic at the end of the zone time permit and whether there are any restrictions or not.

Zone time permit application can be selected as a safety measure in the following cases:

1. Studies carried out in the red zone
2. In multi-line studies
3. Bridges, viaducts, tunnels, retaining walls, crate cuts, line sections on high embankment
4. Works that lead to changes in railway infrastructure
5. In studies that threaten the integrity of the railway line
6. In the works carried out by connecting or placing a tool or machine on the railway line
7. In studies with machines moving on the railway
8. Cranes, diggers, drills, loaders, etc. work with machines

3. Works Performed by Closing the Road

It is the work done by limiting the speed of railway vehicles in order to ensure safety on the lines in the work area or on the side lines on multiple lines.

1. It is determined which lines will be affected due to the studies. If the speed of the railway vehicles on these lines reduces the effectiveness of the safety measures taken, the speed of the railway vehicles is reduced to a safe level.
2. The lines on which speed restriction will be applied, the start and end km information, and the speeds to be applied are specified in the safety plan.
3. Speed restrictions are implemented by the unit responsible for the execution of the work in accordance with the provisions of the legislation in force.

Speed restriction implementation can be selected as a safety measure in the following cases:

- In the works carried out in the red zone, "on the side lines and/or with the lookout"
- Working on multiple lines "on the side lines and/or with the spotter"
- Bridges, viaducts, tunnels, retaining walls, crate cuts, line sections on high embankment "with the lookout"
- In studies that lead to changes in railway infrastructure
- In the works that threaten the integrity of the Demirolyu line
- Works done by connecting a vehicle and/or machine on the railway line and putting it on the road "on the side lines and/or with the lookout"



- "On the side lines" when working with machines moving on the railway
- Cranes, diggers, drills, loaders, etc. work with machines
- In studies using safety watch or electronic warning system

4. Works Using the Safety Supervisor

It is the work done by notifying the incoming trains to the work area by a spotter, who is positioned in command of both sides of the work areas.

1. The working area is protected by a safety watch from both sides.
2. The distance between the safety watch and the working area cannot be less than the maximum braking distance of the fastest train running in the area.
3. The safety lookout must be in a position to see the railway vehicle approaching at least 20 seconds before the point where it is located.
4. It has a radio connection that provides uninterrupted communication between the security officer and the accompanying officer in the work area.
5. When it transmits the information of the oncoming railway vehicle to the work area by radio and/or by activating an audible and light warning system in the work area, if it does not receive the return information about the empty line within 20 seconds, it stops the train by giving a stop signal to the train.

The Safety Watch application can be selected as a safety measure in the following situations:

1. Studies carried out in the red zone
2. In "side lines" work on multiple lines
3. In works that do not cause any change in the railway infrastructure
4. Even on lines where the running train speeds are below 90 km/h.
5. Where uninterrupted radio communication can be established between the watcher and those in the work area
6. In studies where employees will not encounter any restrictive obstacles to leave the line
7. Cranes, diggers, drills, loaders, etc. working with machines

5. Work Using Electronic Warning Devices

It is the work done by an electronic system deployed on both sides of the work areas, by informing the information of the incoming trains to the work area with sound and / or light.

1. The working area is protected by an electronic train notification system from both directions.
2. The electronic warning system is installed at a distance that can inform the work area at least 60 seconds in advance of the oncoming train.
3. Warning: Although electronic warning systems provide warning of work areas, it should be taken into account when preparing safety plans that they will not give stop notices to trains when the work area is not evacuated.

Electronic Warning Devices implementation can be selected as a safety measure in the following cases:



1. In studies carried out in the red zone,
2. In "side lines" work on multiple lines
3. In works that do not cause changes in the railway infrastructure
4. Even on lines where the running train speeds are below 120 km/h,
5. In cases where an uninterrupted electronic connection can be provided between the elements of the electronic warning system,
6. In studies where employees will not encounter any restrictive obstacles to leave the line,
7. Cranes, diggers, drills, loaders, etc. working with machines,

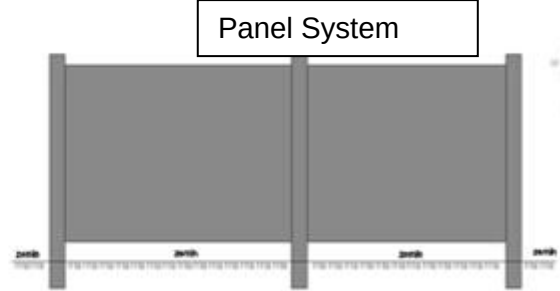
6. Works Using Panels

Working areas are the works done by placing fixed panels on the floor shown in the picture between the "red zone borders" and the railway lines. The minimum height of the panels should be 120 cm.

1. The panels are fixed to the ground, mounted in such a way that they are not affected by the wind created by the trains and the natural conditions.
2. On the lines where the train speeds are above 160 km/h, the wind load to be created by the trains is calculated and placed at distances above 3 meters determined as the red zone limit.
3. They are made of metal or wood material. It is produced to prevent people and animals from passing over it.
4. Barbed wire reinforcement is made on the panels in order to prevent human passage in places where the population is dense and the working area is in danger of being used by people.

Panel System application can be selected as a safety measure in the following cases:

1. At all train speeds
2. In cases that do not require entry by employees and vehicles in the red area in the works being carried out
3. Where there is a large number of employees and where there is a danger of violating the red zone of an open railway line
4. In large-scale construction works to be carried out on railway lines, "bridge, retaining wall, station buildings, highway crossings made over and over the railway, etc."



Panel examples

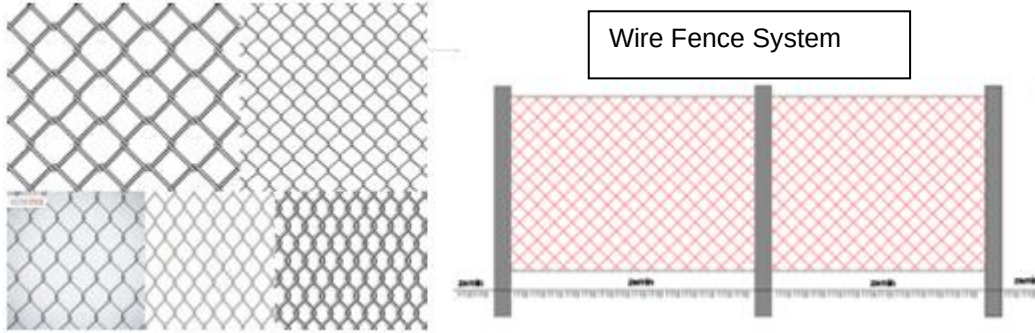
7. Works Using Wire Mesh

The work areas are the works made by covering the poles fixed to the place shown in the picture between the “red zone borders” and the railway lines with braided wire. The minimum height of the wire mesh should be 120 cm.

1. Concrete or metal poles are fixed to the ground, wire fences are mounted so that they are not affected by the wind and natural conditions created by the trains.
2. On the lines where the train speed is above 160 km/h, the wind load to be created by the trains is calculated and placed at distances above 3 meters, which is the red zone limit.
3. In places where the population is dense and there is a danger that the working area will be used by people at the crossings, barbed wire reinforcement is made on it in order to prevent human passage.
4. If it is foreseen in the safety plan, in order to increase the visibility of the wire mesh, it is reinforced with red wire or red and white belts stretched diagonally between the poles so that they do not come out on the wires.

Wire Mesh application can be selected as a safety measure in the following cases:

1. At all train speeds
2. In cases where the work in progress does not require the employees and vehicles to enter the red area
3. In cases where there is a danger of violating the red zone of a railway line that is open to rail vehicle traffic and employs a large number of employees
4. In large-scale construction works to be carried out on railway lines, "bridge, retaining wall, station buildings, highway crossings made over and over the railway, etc."



8. Works Made by Cutting Electrification Energy

In the works carried out on the line sections with electrification; The provisions of the Circular No. 641 in force "About the precautions to be taken in the areas where electric trains are operated, the points to be considered and the warnings to be written on the transport documents" shall be complied with.

9. Protection of Work Areas with Signs

They are the arrangements made with sign boards on railway lines for the protection of work areas.

They are the arrangements made with sign boards on railway lines for the protection of work areas. The signboards to be used are defined by TCDD's Regulation on the Preparation and Traffic of Trains.

Signposts are placed on both sides of the work area. The distances of the signposts to the working areas cannot be less than the maximum braking distance. On the lines used by railway vehicles traveling at speeds over 160 km/h, one more sign will be erected 400 m before for the purpose of repeating the same sign.

The signs used are shown in the safety plans. The places where they are placed are marked on the sketch.

7.3.21.14.3 Voltage Protection in Electrification Works

25.000 Volt, 50 Hz. high voltage electrical energy is available on the catenary line used in power transmission to the electric driven vehicles used in regions where electric driven trains are being operated. For this reason, in areas where electric trains are operated, the following points must be strictly observed and work should not be carried out in the electrified line area with high voltage unless these precautions are taken.

- Catenary installations will be deemed to be under voltage unless they are definitively verified by the authorities responsible for electrification.
- Catenary lines under voltage, their insulators and supports, wires that break and hang down or fall, as well as the pantographs of electric vehicles and other electrical equipment will not be touched as they are dangerous.



- Even if the voltage is cut in the catenary lines, they will not be touched. Catenary lines will be considered non-hazardous after the voltage is cut off and the lines are properly grounded.
- The distance of less than 2 meters to the catenary line under voltage shall not be approached. In the works to be carried out in fixed facilities less than 2 meters from the catenary line, the Electrification Maintenance Department will be notified and the line will be worked after the voltage is cut and the line is properly grounded.
- Water shall not be sprayed on the lines and insulators under voltage as it is dangerous.
- Those caught in electric current and staying in contact with power lines will not be touched.
- Only personnel responsible for operation, control and maintenance will enter the substations.
- Platform ladders or portable ladders shall not be used in live parts.
- No trees will be cut or pruned close to the catenary line. In works that are closer than 2 meters to the live area (tree cutting and pruning), the Electrification Maintenance Department will be notified and the work will be carried out after the voltage is cut off and the line is properly grounded.
- Mechanical safety installations and signal installations that are less than 2 meters away from the live area shall not be operated.
- Repair, painting and whitewashing works of buildings, marquee, overpass, lighting pole and similar facilities that will require working at a distance of less than 2 meters from the live lines will be carried out after the voltage is cut off.
- On the roads where the catenary line is located, since the rails carry the traction return current, there may be a dangerous voltage for human life between the rails and between the rail and the ground; Before any work related to the rail to be carried out under the catenary line while voltage is present in the catenary, the Electrification Maintenance Chief will be notified and necessary measures will be taken by grounding in accordance with the procedure.
- When it is necessary to change rails and trusses and weld on the roads where the catenary line is located, the rail to be replaced will be removed after the rails on both sides of the rail to be replaced are connected with a copper conductor with a cross section of at least 25 square millimeters to ensure the return current. The rail will not be removed until the path of the return current has been provided.
- Rail connections welded or otherwise connected to the rails providing the traction return current shall not be broken. If these connections are broken, the Signaling Chief will be notified in the electrical signal areas. The work will be carried out in accordance with the instructions of these chiefdoms.
- Since the voltages to be induced due to the catenary voltage may be dangerous for human life, the rail parallel to the catenary line (including the spare rails), the aboveground and underground water and gas pipes, the metal parts of the electric cable, etc. There will be no direct contact with the facilities without grounding.
- Electrification line poles will not be climbed until the voltage of the catenary line is cut off.
- The protection panels on the overpasses on the catenary line will not be touched or touched by any object.



- All metallic parts of marquise, overpass, lighting pole and the like in the electrical operation area are grounded. Grounding connections will not be dismantled or broken by the personnel who will work on such facilities.
- In the works on the catenary, after the voltage of the area to be worked is cut off, the area must be grounded from both sides. If this area is 1000 meters, it will be grounded on both sides, and in working areas longer than 1000 meters, it will be grounded on both sides in pieces of maximum 1000 meters.
- Catenary grounding will be carried out with a grounding rod (staka) and an insulated conductor with a cross section of at least 50 mm² connected to this rod. If one end of the conductor connected to the grounding bar is not insulated to the rail, if the rails are insulated, it will be tightly connected to the catenary ground wire or the return conductor and then the other end will be connected to the catenary line. In the dismantling of the grounding, the catenary connection will be removed first and then the connection to the rail or ground wire and the return conductor will be removed. The above order shall be strictly followed in the grounding and dismantling.
- Considering that there is always a dangerous voltage in the wires that hang or break from the catenary line, these wires will not be touched or approached less than 10 meters away.
- In electrified areas, permission will be obtained for any geometrical structure changes to be made on the road. In areas with catenary, the red elevation ideal rail cork and the travel wire height will not be less than 5 meters for the geometric structure change on the road where road works (Borage) will be made.
- In the works to be carried out on the lighting poles at the stations and stops, it will be ensured that there is always a safety distance of 2 meters from the tension zone. In the works to be carried out at distances less than 2 meters, the voltage will definitely be cut off.
- In case of fires in the locomotives and wagons on the roads in the catenary region, the burning locomotives and wagons will be towed to a road without a catenary line. If this is not possible, the vehicles will be towed to the secondary roads and the burning vehicle will not be left near the pole to avoid damage to the insulators and poles.
- While the fire extinguishing works are carried out under the catenary, water will not be sprayed until the voltage is cut off. For this reason, before starting the fire extinguishing process, the voltage in the catenary system will be cut off and properly grounded.
- In case of fires that may occur in other facilities near the catenary lines, the same action will be taken for extinguishing.
- The wagon will not be cleaned by squeezing water in the catenary area.
- No fire will be lit in or near the catenary area, and grass and bushes will not be cleaned by fire.
- Ropes, wires or similar objects shall not be thrown on the catenary lines and devices.
- Underground and aboveground cables and electrical devices will not be touched without taking necessary precautions considering leakage currents.
- In catenary areas, cranes and similar vehicles will not be used. In mandatory cases, the Electrification Chief will be informed and provided that the minimum approach distance of 2 meters, which is the safety distance, is strictly excluded; If this is not possible, the work will continue with the voltage cut off.

- Loading and unloading will not be done while voltage is present on the catenary (air line) on the main and secondary roads, loading and unloading will be done after the voltage is cut off.
- All wagons on the roads in areas with catenary will not be allowed to climb onto the tops and landings for maintenance, repair or similar reasons.

7.3.21.15 Health and Safety Signs

1. Fixed and permanent signs; It is used for prohibitions, warnings and obligatory works, and for identifying and recognizing the locations of emergency escape routes and first aid departments.
2. The locations of firefighting equipment are permanently marked with signage and red color.
3. Places where there is a risk of hitting obstacles or falling are permanently marked with a sign and safety color.
4. Any of the following signs may be used if equally effective:
 - In places where there is an obstacle or danger of falling; signpost or safety color
 - Light signal, audible signal or verbal communication
 - hand signals or verbal communication
5. The following marks can be used together.
 - Light sign and audible signal
 - Light sign and verbal communication
 - Hand signals and verbal communication
6. The considerations in the table below apply to all signs using a safety color.

Colour	Meaning or Purpose	Instruction and Information
Red	Prohibition Sign	Dangerous act or behavior
	Danger alert	Stop, close, emergency stop, evacuate
	Firefighting equipment	Indication and identification of equipment location
Yellow	Warning Sign:	Be careful, take precautions, check
Blue (1)	Imperative sign	A particular behavior or action Use Personal Protective Equipment
Green	Emergency exit, first aid sign	Doors, exits and routes, equipment, facilities



	There's no danger.	back to normal
(1) Blue:	It is considered a safety color only when used in a circular shape.	
(2) Bright orange:	It can be used instead of yellow except for safety signs. Especially in poor natural visibility conditions, this fluorescent color is very striking.	

7. Temporary signs;

- When necessary, taking into account the possibility of using the signs together and interchangeably; Light signs, audio signals and/or verbal communication will be used to signal danger, to call the relevant person to take the necessary precautions and to evacuate the employees.
- Where necessary, hand signals and/or verbal communication will be used to guide persons engaged in dangerous or dangerous maneuvers.

8. In order for the function of the safety sign not to be adversely affected by:

- The presence of another emission source of the same type, which will make it difficult or difficult to see or hear, will be prevented, in particular;
- A large number of signs will not be placed too close to each other.
- Two illuminated signs that are likely to be confused shall not be used at the same time.
- An illuminated sign shall not be used in close proximity to another illuminated sign.
- More than one audible signal will not be used at the same time.
- Audible signal will not be used in places with a lot of ambient noise.
- Signs or signaling devices; proper design, sufficient number, proper placement, good maintenance and repair and correct operation will be ensured.

9. Pictograms will be as simple as possible and include only essential details.

10. The pictograms used may be slightly different or more detailed than those specified in the relevant article of the regulation, if they have the same meaning and the amendment or regulation will not obscure the meaning.

11. Signboards shall be made of materials suitable for the environment in which they are used, resistant to impact and weather conditions.

12. The dimensions and colorimetric and photometric properties of the signboards will make them easily visible and understandable.

13. Signposts shall be placed in a well-lit, easily accessible and visible manner, in the immediate vicinity of places of special danger and dangerous objects, at the entrance of places of general danger, at a height and position appropriate for the level of visibility, taking into

account the obstacles. Provided that the provisions of the Regulation on Health and Safety Measures to be Taken in Workplace Buildings and Extensions are reserved, fluorescent colors, reflector materials or artificial lighting will be used in places where natural light is weak.

14. When the status indicated by the signpost disappears, the signage will also be removed.

15. Prohibition Signs:

- Circular,
- Black pictogram, red frame and diagonal line on a white background (red parts shall cover at least 35% of the marking area)



16. Warning signs:

- Triangular
- Black pictogram on yellow background, black frame (yellow parts will cover at least 50% of the sign area)



Tehlike



- Circular,
- White pictogram on a blue background (blue parts will cover at least 50% of the sign area)



Gözlük kullan



Baret tak



Eldiven giy



Maske kullan



İş ayakkabısı giy



Yaya yolunu kullan



Koruyucu elbise giy



Yüz siperi kullan



Emniyet kemeri kullan



Kulak koruyucu tak



Genel emredici işaret
(gerektiğinde başka işaretle
birlikte kullanılacaktır)

İŞ SAĞLIĞI GÜVENLİĞİ & ÇEVRE

19. Emergency Exit and First Aid Signs:

- rectangular or square,
- White pictogram on a green background (green parts will cover at least 50% of the sign area)



Acil çıkış ve kaçış yolu

Yönler (Yardımcı bilgi işareti)

İlk Yardım

Sedye

Güvenlik duşu

Göz duşu

Acil yardım ve ilk yardım telefonu

20. Fire Fighting Signs:

- rectangular or square,
- White pictogram on a red background (red parts shall cover at least 50% of the marking area)



Yangın Hortumu



Yangın Merdiveni



Yangın Söndürme
Cihazı



Acil Yangın Telefonu



Yönler (Yardımcı bilgi işareti)

21. Signs Used in Obstacles and Dangerous Places:

- Places where there is a danger of hitting obstacles, falling or objects falling, and operating facilities
- The areas in which the workers move during their work are marked with successive yellow and black or red and white stripes.
- The size of the signs is proportional to the size of the obstacle or danger zone.
- Yellow-black or red-white stripes are painted at an angle of approximately 45 degrees and of the same size.

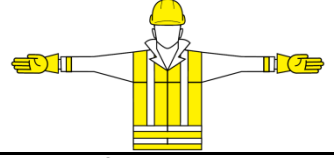


22. When verbal communication is used instead of or with hand gestures, the commands given below will be used.

- **Start:** to start an action or movement
- **Stop:** to stop or end an action
- **OK:** to end a process
- **Up:** to lift a load
- **Down:** to lower a load
- **Forward – backward – right – left:** (These commands will be used in coordination with appropriate hand movements.)
- **Cut:** to stop immediately

- **Quick:** to speed up a movement for security reasons

23. Hand signals will be precise, simple, easy to make and understand, and will differ markedly from similar signs. If two arms are used at the same time, they will be moved symmetrically and only one signal will be given at a time.

Definition	Description	Figure
START Get ready Start command	Both arms parallel to the ground, palms facing forward	
STOP interruption / break Stop Movement	Right arm raised with palm facing forward	
OK End of transaction	Hands clasped at chest level on both arms	

7.3.21.16 Traffic Management

The traffic management plan aims at the safe separation of people and vehicles.

Traffic Management Plans should include the following details.

- Traffic management goals,
- Pedestrian and vehicle traffic needs analysis,
- Field traffic hazard and risk assessment,
- The expected frequency of interaction of vehicles and pedestrians,
- Management methods of traffic in times of density,
- Responsibilities of persons involved in traffic management,
- Responsibilities of people expected to interact with traffic,
- instructions or procedures for controlling traffic, including in emergencies,
- Site traffic circulation plans with the following details;
- Entrances, exits, access roads, excavation, waste, supply, routes,
- Pedestrian access routes,
- Loading and unloading areas,



- Pedestrian and vehicle intersection points,
- Warnings, signs and markers, locations of physical barriers,
- Special transportation requirements for heavy-duty equipment,
- Methods of monitoring the effectiveness of the traffic management plan
- Communication methods of the traffic management plan

Requirement	Rule
Maximum driving time between breaks	15-minute break every 2 hours.
Required break time out of 4 hours total driving time	30 minutes
Maximum duty hours in a 24-hour period.	11 hours (i.e. no vehicle can be used after 11 duty hours) (Duty hours include work-related travel).
Maximum driving hours in a 24-hour period	Total 8 hours excluding commuting time, 9 hours including commuting time.
Leave period after 6 days	At least 24 hours of uninterrupted rest before driving again.
Minimum daily rest period between work shifts, if appropriate	11 hours (can be reduced to 9 hours for a maximum of 3 times a week)

What to Do After a Traffic Accident

Drivers are expected to follow the steps described below if they are involved in a traffic accident.

- Law enforcement officials are contacted immediately and in the format and content specified in local laws, accident report is prepared.
- After the accident, the relevant project / operation traffic officer, Renaissance administrative affairs manager and / or the relevant supervisor is called and information is given.
- In case of using a rental car, the authorities of the SubREC company are contacted and informed about the accident.
- After returning from travel, police report, vehicle accident report, vehicle insurance information and other necessary

A copy of the documents is delivered to the relevant Renaissance administrative affairs unit.



Position	Professional competence	Experience	Technical Training
Traffic Safety Officer	At least Secondary Education Graduate	At least 3 years in traffic management	At least 1 day of theoretical and practical training in the field of traffic management in the last 2 years from an institution approved by the relevant project or enterprise.
Flagman	It is defined in the Construction Machinery and Equipment Procedure.		
Machinery and equipment drivers and operators	It is defined in the Construction Machinery and Equipment Procedure.		

Competency Table

8.0 VERIFICATION AND MONITORING

The purpose of the noise monitoring program is to ensure that the construction site manages HSE aspects and reduces major causes of any hazards, accidents, incidents and near misses.

8.1 COMMUNICATION

Communication is of great importance to ensure a successful HSE management at the construction site. The REC MAOG Project will provide close coordination and communication during the execution of the works and the HSE Manager/Chief of the relevant parties will hold daily short meetings as foreseen. In order to ensure effective communication between the relevant parties, meetings such as the following will be held:

8.1.1. Kick-off Meetings

Kick-off meetings will be held with the participation of the REC MAOG Project and its subRECs and participation will be ensured. If the meeting is held at the construction site, the REC MAOG Project HSE representative will be present during the discussion of HSE requirements. Agenda items will include the following:

- Project expectations
- Type and nature of works
- Scope of
- Hazard Identification Number to identify additional risks associated with the work assigned to the REC/subREC
- Confirmation that work can be done safely within the scope of scheduled scheduled work
- Project HSE Initiation, training and instructions
- Personal Protective Equipment
- Plant and equipment, standards and requirements
- Noise limitation, including local requirements
- Common surfaces with other subRECs



- Reporting incidents, accidents and near misses
- Work Permit System – administration and requirements
- Working in electrical plants
- Other specific hazards foreseen in relation to the new scope of work
- HSE management and administration requirements

8.1.2 Monthly HSE Coordination Meeting

Once every calendar month, the REC MAOG Project will organize a Monthly HSE Review and coordination meeting. The REC MAOG Project Project Manager will moderate the meeting together with the REC MAOG Project HSE Manager/Chief. SubRECs' Site Managers and OHS-defined experts and HSE responsible will be required to attend these meetings. The format of these meetings will be based on the following structure; however, it will not be limited to:

- Minutes of the last meeting
- Emerging issues
- Accidents, incidents and near misses
- Feedback on events
- Monthly forward construction activities
- Joint work between subRECs
- Performance Evaluation
- Additional meetings may be called to discuss special circumstances.
- Works that require special instructions and precautions
- Key lessons
- Issues requested from subREC boards to be evaluated at this meeting

8.1.3 Monthly HSE Board Meeting

In accordance with the Regulation on HSE Boards No. 28532, a committee will be formed and Monthly HSE Board Meetings will be held at least once. The Board will be formed with the participation of at least the following members: REC MAOG Project Employer representative, HSE Manager/Chief, Accounting and HR officer, Site Foreman, employee representative, Defined OHS specialist, Support staff.

The purpose, scope and format of the meeting are defined in the regulation mentioned above, and the legislation is subject to change if necessary.

REC MAOG Project will provide training on the following issues to all board members and those who will replace them in case of change:

- Duties and powers of the board
- HSE regulations
- Common accidents and their main causes
- Industrial hygiene rules



- Behavioral training
- Emergency procedures
- Professional diseases
- Special risks related to construction

8.1.4 Weekly HSE Review Meeting

The REC MAOG Project Project Manager or his/her appointed persons will hold an HSE field walk and then a meeting with one of the subRECs on a weekly basis with the REC MAOG Project HSE Manager/Chief or his/her designated persons. The format of these meetings will be based on the following structure; however, it will not be limited to:

- Minutes of the last meeting
- Emerging issues
- Weekly forward activities
- Accidents, incidents and near misses
- Feedback on events
- Common surfaces between subRECs
- Additional meetings may be called to discuss special circumstances.
- Key lessons

After the weekly meetings, the Meeting Minutes document will be prepared to explain the necessary corrective actions, identify the responsible persons and indicate the completion status.

8.1.5 Construction Site Coordination Meeting

Planning and coordination are key elements for successful HSE Management. Therefore, its tightness and format will be defined by the project management depending on the needs of the project; however, as an industry practice approach, site coordination meetings will be held with the participation of the REC MAOG Project site supervisor and supervisors, subRECs and other relevant supervisors, and site planning will be ensured by the coordination of activities. Therefore, regular attendance of the REC MAOG Project's HSE Manager/Chief or his representative in these meetings will be necessary to improve the implementation of the Occupational, Health, Safety and Environmental Management Plan (HSYP).

8.1.6 Occupational Safety and Team Meetings

Daily Team Meetings

Daily "team meetings" will be held at the start of each shift in a language that workers can understand and will cover aspects of safety rules and procedures for the hazards of the current job. The main sources of occupational safety and team meetings will be method statements and risk assessments. The duration of team meetings shall not be less than 5 minutes. In the case of particularly dangerous operations (eg access to restricted areas), team meeting time will be appropriate for the task to be undertaken. The group foreman will conduct the team meetings.



Weekly Safety meetings

The REC MAOG Project section chief and supervisor will hold a weekly safety meeting at the start of the shift every Monday. Headings will be given to the supervisors by the REC MAOG Project HSE team. Participation signatures will be taken at the meeting.

Monitoring

REC MAOG Project HSE Officers/Supervisors will monitor the daily and weekly meetings mentioned above, and will demonstrate the commitment of the management, verify its quality, and encourage two-way communication.

In addition, if non-compliance is detected by making unplanned field tours, they will open a CAPA (corrective / preventive action) notification on the management systems software.

Hazard & Risk Management

In order to determine the activities according to the Risk Management Requirements table, meetings should be held with the MAOG Department Manager, SubREC Project Manager, Employee Representative, OHS specialist and MAOG HSE team.

Risk analysis: Determined activities and equipment to be used, emergencies, personnel competence, chemicals, electrical and mechanical hazards, radiation, etc. The analysis should be done together with the team, taking into account the circumstances.

Work Hazard Analysis; For the activities determined in the risk management needs table; meeting, determination of work items, hazards and precautions to be taken should be determined. ITA trainings should be given to the personnel who will perform the job before they start the job, and these meetings and trainings should be recorded.

TRIC Cards should be created to identify job-specific hazards. TRIC card conversations aim at the ultimate control of employees. It is required that all staff receive it on a weekly basis. All personnel should be organized by dividing them into groups of 25.

8.1.7 HSE Inspections, Inspections, Unannounced Inspections and Observations

The HSE Department, Managers, Supervisors and other employees are expected to constantly control their activities in the context of safety during the performance of their work. Unannounced inspections or observations will be considered inspections; however, they will be less formal and aim to take immediate corrective action as an integral part of the work. The final form of these observations will be recorded on simple HSE Observation cards to be issued by the HSE Department and these cards will be available at various locations within the construction site.

However, HSE performance will also be monitored through more formal inspections and audits such as:



- Inspections are more formal monitoring activities than weekly HSE unannounced inspections and routine Observations and check construction sites and/or facilities. HSE observation cards will be used to record the findings of unannounced inspections and observations. All findings will be recorded and tracked through registration forms.
- Inspections are defined as the most formal and high-level monitoring activities. The monitored organization will be represented by a person with overall responsibility for HSE.

HSE management and documentation, storage, warehouse, workshop areas of each subREC will be regularly audited by the REC MAOG Project, especially in detail. A non-compliance tracking system will be implemented and shared with the REC MAOG Project. Responsibility and completion date (maximum 15 days) will be determined for any non-compliance. Corrective actions will be followed up to the closing day.

Weekly Inspections

REC MAOG Project HSE Department will conduct weekly inspections to determine the HSE status of the construction site, and these weekly inspection results will be shared with subRECs to show necessary improvements. Audits will be carried out at any time without prior notice to the relevant party to be audited, with a planned checklist of HSE requirements. Any area that does not comply with these requirements will be subject to a Nonconformity Report and this report will be followed up to ensure that the necessary measures are taken, that these measures are effective in correcting the nonconformity and that it does not reoccur. Weekly HSE inspections will cover construction site activities and site maintenance as well as hygiene issues.

Before the inspections are carried out, the following points will be prepared:

- Audit Checklist; This list will cover all measurable elements of the HSE requirements of the area to be audited. There will be standard forms available from the HSE Department for various activities and topics.
- Draft Nonconformity Report; This report will include the name of the nonconformity, corrective actions with the deadline given, and at least the name of the person responsible for the action with the person reporting it. The standard form will be obtained from the HSE Department.

Inspections will be carried out as follows:

- All questions on the checklist will be audited and answered.
- All nonconformities will be formally identified in the Nonconformance Report
- Nonconformities in equipment, facilities or processes will be precisely identified (eg: label number, process method statement, etc.)
- It will be verbally explained and shown to the representative of the relevant department in order to agree on any non-compliance.
- All non-compliance reports will be prepared, signed and signed by the representative of the audited department before the audit is closed.



- The report will be prepared within 2 days after the inspection. Distribution of the report will be made to at least:
 - Project Manager
 - REC Production / Group Managers
 - REC Project HSE Manager/Chief
 - REC HSE Department
 - Relevant Department Heads
 - Relevant Department Supervisors
- As a result of the audit, the monitoring database will be reviewed and it will be determined whether the ongoing monitoring of the audited Institution is sufficient, insufficient or excessive. Adjustments will be made accordingly in the plan.
- Ensure that the Nonconformity Report is followed to ensure the following:
 - The corrective action applied was effectively applied to the nonconformity.
 - The corrective measure implemented prevented the repetition of similar issues.
 - The nonconformity will be signed as closed only when the above points are fulfilled.

Inspections

Inspections will be carried out monthly by the REC HSE Department to subRECs. The findings obtained at the end of the inspection will be recorded and shared with the relevant parties.

In case of need, the REC and a third party inspection company may organize quarterly HSE inspections throughout the year.

8.2 INFORMATION AND DOCUMENTATION

Project management systems for technical integrity and Health and Safety will be properly documented and fully adhered to.

Documentation in practice and documented verification showing that the construction conforms to design and verification that testing and commissioning has been completed and is to acceptable standards will be provided.

The following information will be collected by the REC and stored at the REC HSE office for the duration of the project.

- Weekly Safety Reports (Weekly orientation, staff and hours, Weekly Training Program, etc.) Weekly Audit
- Monthly Injury Summary
- Injury and Damage Reports
- Motor Vehicle Accidents



- Fire Extinguisher Inspection
- Preliminary and Detailed Accident Report
- Crane and Heavy Equipment Operator's License
- Crane Controls
- Lifting equipment certificates and Inspection reports
- HSE Trainings
- Occupational Safety Meeting Reports and Attendance
- Disciplinary Measures
- Work Permits (WP)
- Near missed accident reports

Before the 10th of each month, the REC MAOG Project will prepare and share a report for each company working on the project, which includes the number of people and hours worked and the number of near misses, first aid incidents and illnesses.

A database containing records of all personnel and subRECs managed by the REC MAOG Project will contain the following information: injuries and illnesses, first aid and near misses, initial training, chemicals, disciplinary violations, non-compliances. Qualifications and trainings of all employees at the construction site will also be recorded in the database. Relevant certificates, both internal and external, will be available in special files at the HSE office.

The same database managed by the REC MAOG Project includes all subRECs' equipment (motors, electrical equipment, welding machine or generators, gas bottle accessories, emergency equipment, lifting equipment, mechanical equipment, fittings, etc.) will record it. The database will indicate upcoming maintenance. Where required by regulation, third-party certificates will also be registered.

8.2.1 Information to be Given to the Ministry Before Construction

HSE Regulation No. 28786 requires the REC MAOG Project to fill in the descriptive information form required by the regulation and apply to the Regional Labor Directorate located in the project area before construction. This form will be signed and submitted by the Site Manager.

8.3 INCIDENT REPORTING, ANALYSIS and PREVENTION

8.3.1 Introduction

Reporting and investigation of accidents, incidents and near misses is an important tool in the management of HSE issues in order to prevent the recurrence of similar incidents.

REC MAOG Project will ensure that all kinds of injuries, illnesses, accidents, near misses and hazards are reported and documented and the Employer is informed about emergencies and accidents at the construction site in accordance with the provisions of the relevant procedure. Reviews will be conducted in collaboration with the REC MAOG Project and subRECs.



This section deals with accidents and incidents that should be reported to the REC MAOG Project Site Chief and the REC MAOG Project HSE Manager/Chief as soon as possible in practice.

Neglected accidents, first aid, injuries and illnesses will be tracked. The REC MAOG Project will be promptly notified by the subREC with a short report including the reasons and preventive measures against recurrence. The short report format will be provided by the REC MAOG Project HSE Department. A more detailed report including Root Cause Analysis and action plan for lost time accidents, restricted occupational accidents will be submitted by subRECs to REC MAOG Project managers. The subREC Site Chief, REC MAOG Project OHS Manager/Chief or his representative will prepare a report in coordination with the REC MAOG Project HSE Department. What has been learned from the accident and corrective measures will be shared at the construction site with a status report.

Investigation Report:

All incidents and accidents that occur are investigated and reported within the scope of Rönesans Holding's HOL-HSE-PRO-002 Accident Incident Management Procedure, and all incidents and accident notifications and investigation reports are reported via the <http://rsafe.ronesans.com/> address on Rönesans Holding. . Incident and accident notification reports are first entered into the system by the Project HSE Manager, revised by the Infrastructure HSE Manager and published to the Infrastructure Project and Center management. Incident Accident Investigation Form will be used for the following accident types:

- Fatality – FAT: Fatality - FAT: A recordable event resulting in death as a result of a work-related injury or illness, regardless of the time of response between the event and death.
- Lost Time Incident (LTI): Accidents in which the injured employee as a result of a work accident is unable to perform the job he is normally assigned to and cannot return to work on the working day (the next day) following the day of the accident. Failure to return to work or rest on the day of the accident is NOT counted as a lost day.
- Restricted Work Case (RWC): If the injured employee as a result of a work accident occurs, if he or she is unable to perform the job he is normally assigned to, but is assigned to a slightly different job on the business day following the day of the accident, and is able to do that job, the employee must return to his main duty at the end of 15 calendar days at the latest. (In case of injuries exceeding 15 days, the incident is upgraded to the Lost Day Accident Class.)
- Medical Treatment Case (MTC): Beyond First Aid, these are accidents that usually result in Medical Intervention in hospitals/outdoor health institutions and where the casualty returns to work on the day of the accident or the next day. (Stitching etc.)



- First Aid: Does not require any medical intervention (stitching, surgery, surgical intervention, a heavy operation, etc.); These are accidents with minor injuries that can only be treated with the intervention of a first aider.
- Occupational Illness – OI: Occupational Illnesses are diseases that have been diagnosed. eg; Work-related skin diseases such as dermatitis, skin cancer, ulcers, acne, Lung diseases such as occupational asthma, exposure to asbestos.
- Property and Equipment Damage (PED): Injury free; accidents that result in damage to materials, equipment, or a production made
- Motor Vehicle Accident (MVI: Collision of any vehicle or equipment with each other. E.g; truck overturns, vehicle/construction machine collisions.
- Fire – FI: These are the accidents that occur as a result of combustion reactions that occur as a result of the combination of the substance with heat and oxygen and/or any form change that occurs as a result of this. Major fires are fires that are intervened by smoke clouds, fire extinguisher or extinguishing methods, or fires that occur with a change in form before the smoke comes out.
- Environmental Incident – EI: Chemical spills, spills, spills and spills that can damage soil - air - water.
- High Potential Accident/Incidents: These are the accidents/incidents that are evaluated according to their potential severity and classified as “High” potential within the framework of the Risk Rating Matrix numbered HOL-HSE-CHT-S001-01 in the appendix of the HSE Management Guide.

Near Miss Reporting

Near-miss notification boxes are located at different locations in the enterprise, filled-in evasion reports are checked weekly and related actions are recorded in the HSE Action Table. Interactive trainings are given by OHS Experts in order to increase the awareness of cheap evasion notification.

Near miss notifications can be made verbally to the Project HSE team. Notifications are then made via RSafe by the HSE Manager / Supervisor / Supervisor.

Unsafe Behavior/Condition Monitoring Report

Trend analyzes for Unsafe Behavior/Status Categories will be made by the MAOG HSE team for all nonconformities. Common unsafe situations and unsafe behaviors will be identified and shared with the Project Manager and the Infrastructure HSE Manager to take necessary



preventive actions. The MAOG HSE team is responsible for making these analyzes and sharing them with the Project Management, and the Project Manager is responsible for taking these measures.

Sharing of Accidents/Events

Following its publication, the results of fatalities (FAT), lost day accidents (LTI), restricted incapacity accidents (RWC), and low-risk incident report results and lessons learned, increase employee awareness of accidents/incidents that may occur in the workplace. It is shared with the employees through on-the-job talks, HSE Statements, Bulletins and Trainings for the purpose of the incident/accident, specifying the main reason and contributing causes and necessary corrective actions.

MAOG HSE Manager and Infrastructure HSE Manager are jointly responsible for this sharing.

- Rescue, shutdown, fire extinguishing etc. after the accident. operations such as;
- Accident injury, damage and loss, etc. An inventory of all results can be made.

8.3.2 Incidents to be Reported Immediately in the Project

Any incident or accident will be reported. However, the following events will be reported immediately (day or night) to the REC MAOG Project Site Chief, the REC MAOG Project HSE Manager/Chief. The Site Chief of the REC MAOG Project will inform the Employer and the Employer's HSE Officer.

Incidents/incidents to be reported immediately are as follows:

- Death due to a work-related or work-related accident.
- serious injury.
- Fractures.
- Any loss of limb
- Dislocation of the shoulder, hip, knee or spine
- Any injury from electric shock or electric burn (including those caused by arcing or arcing products) resulting in unconsciousness or requiring resuscitation or hospitalization for more than 24 hours.
- Any injury that causes a drop in body temperature, an illness that causes fever, or loss of consciousness.
- Loss of consciousness from suffocation or exposure to a harmful substance or biological substance.
- Acute illness requiring medical treatment or loss of consciousness due to any substance inhaled, swallowed or ingested.



- An acute illness requiring medical treatment and there is reasonable reason to believe it is caused by exposure to a biological substance or its toxins or infectious substances.
- Getting sick as a result of the pandemic

In addition, any incident that causes job loss will be reported to the REC MAOG Project Management and Employer Site Chief, REC HSE Manager/Chief by following the sequential supervisors route on the first working day after the injury.

8.3.3 Hazardous Incidents to be Reported Immediately in the Project

The following specific types of incidents will be reported promptly (day or night) to the REC MAOG Project Site Supervisor, the REC MAOG Project OHS Manager/Chief.

Hazardous Incidents include the use of:

- Lifting machines, etc.
- pressure boilers
- electrical short circuit
- explosion or fire
- flammable substance leakage
- Scaffolding collapse
- Collapse of building or structure
- Substance or pathogen leakage
- Live line (Railroad)
- Working on energized line

➤ Lifting Machines

Collapse, overturn or failure of any of the load-bearing parts of the following:

- All kinds of lifts, hoists, cranes, poles with pulleys or mobile electric access platforms;
- All kinds of excavators, trucks, wagons, locomotives, tamping machines

➤ Pressure Boilers

Any closed boiler (including boiler or boiler pipe) or any connected pipeline with an internal pressure above or below atmospheric pressure, where failure has the potential to result in serious injury.

➤ Electrical Short Circuit

An electrical short circuit or overload involving fire or explosion, which could result in plant shutdowns or potentially cause serious injury.



➤ **Flammable Substance Leakage**

Sudden and uncontrolled release inside a building that can cause a hazardous situation.

➤ **Scaffolding Collapse**

Partial or complete collapse of all types of scaffolding

➤ **Collapse of Building or Structure**

Involuntary collapse or partial collapse of:

- Any building or structure under construction, reconstruction, renovation or demolition.
- The floor or wall of any building used as a workplace.
- All kinds of formwork scaffolding

➤ **Substance leakage, including biological substances**

The accidental release or leakage of any substance in such quantities as to cause death or serious injury or otherwise serious harm to the health of any human being.

Any event that results in or may result in the release or leakage of biological material likely to cause severe human infection or disease.

8.3.4 Incident Investigation

REC MAOG Project will establish Incident Investigation and Reporting Procedure and Incident Investigation Team consisting of permanent and part-time members. Senior management involvement will depend on the seriousness or probability of the incident; however, as a minimum, the REC MAOG Project HSE Manager/Chief will preside over all reviews.

A case study system will be required to identify root causes and actions to prevent recurrences to be identified and to resolve them in a timely manner.

8.4 FIRST AID and MEDICAL TREATMENT

The REC MAOG Project will ensure, by auditable means, that all personnel employed on the project, including subRECs, are medically evaluated and tested for their suitability for the job, as well as periodically reassessed. SubRECs will be fully responsible for the assessment of their employees' medical conditions. The REC MAOG Project will ensure that random checks are carried out within its proposed inspection and review system to verify compliance with this requirement.



No one with a contagious disease will be allowed to work on the project. Employees using drugs that may affect their performance will report this situation to healthcare professionals.

The REC MAOG Project and its subRECs will run a personal health program to prevent the occurrence or spread of disease.

8.4.1 Medical Treatment and First Aid Facilities

This section will detail the standards of medical treatment and first aid facilities for the project. Any changes due to local regulations or site needs will be reflected in this document.

The REC MAOG Project will provide first aid, medical and occupational health facilities for subREC staff and Employer's staff working at the same site.

REC will provide a hierarchy of first aid and medical treatment facilities for prompt and effective treatment of all personnel who become ill or injured during the MAOG Project. The approach to be adopted will be rapid first aid and trauma response at the point of injury followed by transport to provide specialist medical care at the stabilization facility.

To achieve this, the subREC will provide:

- Providing basic first aid training for employees by an occupational physician.
- A sufficient number of personnel trained as Advanced First Aid Personnel in accordance with the First Aid Regulation will provide immediate medical assistance to the injured personnel at the construction site. Advanced First Aid Personnel will receive training in the use of trauma response kits.
- Appropriate first aid kits for trauma management will be available in all work areas.
- Adequate number of first aid kits will be available in offices and construction site containers. First Aid Kits will be checked during weekly inspections and will have a First Aid Kit Label on them.
- Medical treatment and first aid facilities will comply with local regulations.
- All workers will be informed on the Tetanus and Sexually Transmitted Diseases (STDs) including HIV during the orientation period and condoms will be provided to expats. If required, vaccinating workers against Tetanus will be applied.
- All workers will be informed about the closest Public healthcare facilities.

If an increase in cases of disease or use of public health facilities is observed awareness raising training will be coordinated with the local health authorities.



Periodic Inspections

- vaccine	Tetanus	All Employees	1 dose on recruitment
Hepatitis vaccine	B	All Employees	Result of HBs Ag, Anti HBs, Anti HCV, Anti HIV, Hepatitis B vaccine if immunity is not available

Periodic Inspections:

All Employees : 1 time in a year.

- Reported chest X-ray & PFT
- Screenshot of the Covid 19 risk status in the "Life Fits Home" application, on the day of work
- HBsAg, AntiHBS, AntiHCV, AntiHIV
- Complete blood count
- AST,ALT,CREATINE,BUN
- ECG
- Audiometry

Office Staff:

- Eye Examination

8.5 SECURITY

The REC MAOG Project will employ security personnel to monitor and control the movement of site personnel and equipment at the project temporary facilities.

Project facilities will be fenced and lighting will be provided as necessary. All personnel will have access to the work sites through certain entrance gates with security guards and control. There will be a security guard at the entrance and exit to the work areas 24 hours a day, 7 days a week, including holidays. Except in emergencies, anyone without a valid pass will not be allowed to pass.

More information can be obtained from the Site Safety and Security Emergency procedure.

8.6.MITIGATION MEASURES DUE TO PHYSICAL AND CHEMICAL HAZARDS

- The area around which elevated work is taking place will be barricaded to prevent unauthorized access and working under personnel on elevated structures will be avoided
- Hoisting and lifting equipment will be rated and properly maintained, and operators trained in their use.
- Elevated working platforms will be maintained and operated according to established safety procedures including use of fall protection measures (e.g. railings), equipment movement protocols (e.g. movement only when the lift is in a retracted position), repair by qualified individuals, and installation of locks to avoid unauthorized use by untrained individuals.



- Ladders will be used according to pre-established safety procedures for proper placement, climbing, standing, as well as the use of extensions.
- When working at height, proper fall protection measures will be implemented. Fixtures will be installed on bridge components. Safety harnesses with proper thickness and of suitable materials ensuring sufficient strength will be used. Rope safety harnesses will be replaced before signs of ageing or fraying of fibers become evident.
- When operating power tools at height, workers will use a second (backup) safety strap.
- Personnel exposed to high levels of noise will be required to use personal hearing protection devices/equipment. Where required for specific works, work rotation programs will be implemented to reduce cumulative exposure.
- Weather forecasts will be monitored for outdoor work to provide advance warning of extreme weather and schedule the work accordingly. Protective clothing will be used where required.
- Properly maintained construction machinery, equipment and vehicles will be used to minimize air emissions.
- Engine idling time will be reduced in construction sites.
- Direct diesel exhaust will be properly removed to minimize exposure of the operators.
- Indoor working areas where vehicles or engines are operated will be ventilated or the exhaust gases will be properly diverted.
- Lead-containing paint will be avoided, and appropriate respiratory protection will be used when cutting galvanized steel.
- At work sites where dust levels are excessive, dust masks will be used by relevant personnel.

The following monitoring tools will be used:

- OHS Performance Reports including accident/incidents
- Corrective actions, trends, risks,
- SubREC & supply chain performance
- Training Records

8.7.MITIGATION MEASURES REGARDING FLOOD RISK DURING CONSTRUCTION

- In case the construction does not finish during the dry season the construction will be suspended in the rainy season until the next dry season comes
- There should be adequately trained personnel and equipment to act quickly to risky areas.
- Personal Protective Equipment will be selected based on the specific flood risks Employees must have full PPE.
- For any meteorological extremity, the State Hydraulic Works and the Turkish State Meteorological Service will be in constant communication and the weather will be monitored to stop the construction in an emergency.

9.0 MONITORING, ASSURANCE AND VERIFICATION

Key success indicators (KPIs) of this procedure will be monitored, verified and evaluated by the relevant parties in accordance with their responsibilities set forth in the E&S Governance document, within the scope of the MAOG-RECU-GB-GNL-IS-PRG-0007-0 HSE Monitoring, Assurance and Verification Procedure.



10.0 RELATED DOCUMENTS

- Traffic Management Plan
- Emergency Response Plan
- Construction Camp Management Plan
- Risk Assessment Procedure
- Construction Site Safety and Security Emergency Procedure
- Work at Height Procedure
- Procedure for Permit to Work
- Lifting Operations Procedure
- Disciplinary Procedure
- Electrical Safety Procedure
- OHSTraining Procedure

11.0 REFERENCES

- REC HSE Policy, Plans, Standards and Procedures
- HSE Boards Regulation (25426)
- Construction Works HSE Regulation (25325)
- HSE Law No 6331 (28339)
- ATEX Workplace Directive 99/92/EC
- ATEX Equipment Directive 94/9/EC
- ATEX Directive (25328)
- Regulation on Radiation Protection and Licensing in Industrial Radiography (25869)
- First Aid Regulation (24762)
- IFC Standards
- TCDD Circular, Communiqué, Regulation and Practices
- International Standards:
- Legal Laws, Regulations, Statutes, Communiqués
- Rönesans Holding Zero Tolerance Policy