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İşin Adı The Name of the Job	:	Mersin-Adana-Osmaniye-Gaziantep Yüksek Standartlı Demiryolu Hattı İnşaatı ile Elektromekanik Sistemlerinin Temini Construction of Mersin-Adana-Osmaniye-Gaziantep Hight Standard Railway Line With Supply Of Electromechanical Systems
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1. PURPOSE

To ensure the safe management and control of machinery and equipment operations during the execution of the activities carried out in the Mersin-Adana-Osmaniye-Gaziantep High Standard Railway Project.

2. SCOPE

It covers the people (employees, interns, etc.) involved in the Mersin-Adana-Osmaniye-Gaziantep High Standard Railway Project, all operating consultants, consultants, intermediary persons and companies, and subcontractor activities (all machinery equipment processes, etc.).

The content of this document has been developed to determine the minimum requirements for Rönesans Holding and all affiliated Group Companies; It can be developed according to the legal regulations of the working area, employer expectations and international standards.

3. REFERENCES

HOL-TMSG-SRC-005 (Rev.00) Machinery Equipment Rental Process

MAOG-RECU-GN-GNL-IS-GNL-PRG-0002-0 Hazard and Risk Management Procedure

MAOG-RECU-GN-GNL-IS-GNL-PRG-00021-0 Hazardous Energy Control Procedure

MAOG-RECU-GN-GNL-IS-GNL-PRG-00012-0 Lifting Operations Procedure

Mobile Equipment and Staff Interaction Plan Guide

EU Noise Directive 2003/10/ EC

TS EN ISO / IEC 17020 Conformity Assessment - Terms for Operation of Various Inspection Bodies

4. RESPONSIBILITY

5.1. Project Manager

MAOG Project Management establishes the organizational structure that will fulfill the following requirements in order to manage the hazards and risks related to construction machinery and equipment. This structure is created independently of the HSE - E department.

Machinery and equipment organization in the MAOG Project; is formed by the appointment of experienced and competent personnel after the evaluation of the project requirements, scope, size, variety and density of the machinery & equipment by the MAOG Project Management. MAOG Project Management determines the organizational content and scope of the machinery-equipment processes in the planning processes of the projects (preliminary risk assessment, risk workshop, etc.), and accordingly the required Machinery Equipment Manager / Supervisor / Supervisor / Chief / Foreman / Maintenance Follow-up Officer / Supply Responsible etc. makes appointments and announcements. The term “Machine Equipment Officer” will be used in the next sections for the person assigned in this document. This process is the responsibility of MAOG Project Management. In the MAOG Project, where machinery-equipment is used in a wide variety and intensively, it is obligatory to detail the necessary organization responsible with the competence, experience and number to meet the project needs.

- The size of the project, its scope, needs, etc. evaluates and creates the necessary organization.
- Management of the Workshop and Maintenance Team and ensuring that the relevant parts of this document are implemented by these teams.

- Developing and maintaining a maintenance program to maintain construction machinery and equipment with minimal repair requirements. Establishing a planned maintenance program, including maintenance intervals for each machine and equipment.
- In case of nonconformities in the construction equipment and inspection, to remove the construction equipment and equipment from the field and to ensure that the relevant nonconformity is eliminated.
- Under no circumstances should a defective machine or equipment be allowed in the project.

5.2. Machinery Equipment Officer

Responsible for planning and scheduling machinery and equipment activities before, during and after field activities.

Supports the project units on technical issues related to construction machinery and equipment and ensures that all maintenance requirements are implemented through communication with the Maintenance Follow-up Officers determined / assigned by the MAOG Project Management, and monitors the general status of the project / operation construction equipment and equipment fleet in accordance with the MAOG Project Management and the minimum requirements defined in this document

Establishes the work machine and equipment maintenance program. Provides Maintenance Follow-up Officers access to maintenance manuals and ensures that maintenance requirements are met throughout the project.

The Machinery Equipment Officer also has the following responsibilities:

- Ensuring that all construction machinery and equipment are in full usable condition and in the working areas when necessary,
- To plan and provide trainings for operators, signalers / flaggers and maintenance personnel to increase their competencies, to support their development,
- To ensure that the necessary control measures are taken during all maintenance work in order to complete the work safely,
- Communicate with relevant maintenance workers on maintenance manuals, technological developments in maintenance methods, lessons learned from incidents, feedback from inspections, reviews, inspections and change management,
- Assessing the competence of the operator, signalers / flaggers. Deciding whether to take part in the MAOG Project according to the requirements in the document and the result of the competency assessment,
- Checking the construction machinery and equipment to be accepted into the field and giving the approval of conformity,
- Ensuring that the use and maintenance of construction machinery and equipment are carried out according to the manufacturer's recommendations,
- Liaising with operators, all relevant employees and teams to ensure that machinery and equipment are properly controlled and used.
- To control and monitor the maintenance status of all construction machinery and equipment, to develop the equipment list and to follow up the maintenance,
- To make general supervision of the work of the work machines and equipment in the field, to keep the inventory of the work machines and equipment up to date and to monitor their status,
- Organizing the maintenance of all construction machinery and equipment, managing the maintenance and repair teams, supplying, storing and using spare parts when necessary.

- To maintain the necessary guidance, on-the-job training, surveillance and inspection activities for the safe operation of maintenance and repair teams.

5.3. Heavy Construction Equipment Operators

The duties and responsibilities of all heavy construction equipment operators include but not limited to the following items:

- Performing daily heavy-duty machinery checks and filling pre-shift checklists before starting work before each shift,
- Informing the Machinery Equipment Officer when there is a problem that he cannot solve with the heavy-duty equipment he is working with,
- Never disabling safety equipment, breakers and warning systems while using heavy-duty equipment,
- Using heavy-duty equipment in compliance with the manufacturer's instructions and MAOG Project rules,
- Not disabling safety equipment and using it by following the safe working instructions specified in this document.

5.4. Motor Vehicle Driver

The duties and responsibilities of all motor vehicle drivers are not limited to the following items:

- Performing daily motor vehicle checks and filling pre-shift checklists before starting work before each shift,
- Informing the Machinery Equipment Officer when there is a problem that he cannot solve with the motor vehicle he is working with,
- Not to disable the safety equipment, breakers and warning systems in any way while using the motor vehicle,
- To use the motor vehicle in compliance with the manufacturer's instructions and project rules,
- To comply with the speed limits determined at the project site, to follow the warnings and directions of the flaggers,
- To comply with all traffic rules specified in the local legislation in case of traffic,
- He is responsible for wearing the seat belt while using the motor vehicle, making sure that other passengers use the seat belts, not deactivating the safety equipment and using it by following the safe working instructions specified in this document.

5.5. Flagman

By maintaining constant eye contact with the operator in the area where the construction machinery and equipment are working, the flaggers:

- Guiding the operator to make safer maneuvers by widening the field of view,
- Warning pedestrians who may approach the impact area of construction equipment or equipment and directing them to safer routes,
- It is responsible for regulating the flow of traffic in which other vehicles and people will pass through the area where the construction machinery and equipment are working.

5.6. Signalman

Signalmen are responsible for signaling the maneuvers to the crane operators, which they shall make, using hand signals or radios in coordination with the rigger in order to make sure that the lifting operation can be continued safely during erection and dismantling of lifting device, approaching the hook to the

load, lifting the load, overhead transfer, and lowering the load in lifting operations carried out by cranes and excavators whenever necessary. Information on other duties and responsibilities are available in MAOG-RECU-GN-GNL-IS-GNL-PRG-00012-0 Lifting Operations Procedure.

5.7. Maintenance Monitoring Supervisor:[1]

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 maintenance performed,
- Responsible for determining breakdown maintenance requirements and ensuring that maintenance is carried out.

5.8. Supply Manager[2]

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 starts 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 that is currently being replenished,
- 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.

5.9. Project / Operation HSE Manager / Chief

- Project HSE Manager / Chief is responsible for coordination and monitoring of this document in order for the enforcement thereof in all sites and activities. Project HSE Manager / Chief is also responsible for:
- Using this document as a basis for creating the relevant project / operation procedures,
- Providing training to the employees and subcontractors in the scope of this document,
- Ensuring coordination with the directors / supervisors in charge of activities in the site / operations for enforcement of this document, and

[1] It has been added to indicate minimum duties and responsibilities if defined within the relevant organization by the MAOG Project Management.
Added to indicate minimum duties and responsibilities if defined within the relevant organization by MAOG Project Management

- Monitoring whether the efficiency and contents of this document are enforced properly, reviewing, and contacting the Group Company Coordination / Manager / Director and/or Corporate HSE Management Department in case revision is needed.

5.10. 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

5.11. PIU (Project Implementation Unit)

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 Physics Engineer who is responsible for supervising health and safety for the Project.

5.12. 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

5. DEFINITION AND ABBREVIATIONS

Failure MaintenanceIt is the type of maintenance that is aimed to be eliminated as soon as possible after an error or malfunction occurs. Intervention is performed after the fault occurs. Faults are detected and eliminated by performing physical and diagnostic checks.

Construction machinery and equipment:Any machine, device, tool, tool or apparatus used in the workplace. The scope of construction machinery and equipment has been determined in this document to include the following four subheadings:

- Heavy Duty Equipment: It is defined as self-propelled equipment used on an ongoing basis by a certified operator, such as Cranes, forklifts, loaders, diggers, etc.
- Motor Vehicles: It is defined as self-propelled vehicles designed to travel on public roads or highways, such as cars, buses or trucks.
- Light Duty Equipment: It is defined as other small equipment that does not require a licensed operator such asHand tools and drills, hand rollers, light towers, concrete vibrators, etc.

- Fixed Work Equipment: It is defined as stationary equipment that does not require a certified operator or constant supervision, such as a generator, compressor.

Rollover protective structure (ROPS): It is a structure designed to protect heavy-duty equipment operators from injuries that occur during work equipment tipping.

Scheduled maintenance It is the type of maintenance in which the maintenance and repair of the work machine, equipment and parts are carried out in a predetermined period of time, without any malfunction or error. All equipment on the work machine and equipment are regularly reviewed and the detected malfunctions are eliminated.

Sıgnalman It is the qualified personnel in a position to be able to see both the operator's cabin and the working place comfortably and clearly, who has been selected and trained to transmit instructions and coordinate their activities between lifting vehicle users (Mobile Crane, Tower Crane, etc.) and slingers.

Operator: It is a licensed and qualified employee who uses construction machinery.

MEPI: Mobile Equipment and Personnel Interaction Plan Guide (Mobile Equipment People Interface)

6. IMPLEMENTATION

7.1. Competency Requirements and Acceptance of Competence

At Rönesans, only employees with the competencies specified in this document can take part in the work of construction machinery and equipment. The minimum competency requirements for the designated tasks are defined below.

Table1 : Qualification matrix

Position	Professional competence	Experience	Technical Training
Machinery Equipment Officer [3]	Graduated from Universities College or Engineering Faculties (preferably machinery or construction departments).	At least 5 years working with construction machinery and equipment.	Risk Assessment Training. All machinery and equipment used in the MAOG Project must be familiar with manuals and maintenance control processes.
Heavy Duty Equipment Operator	An operator's certificate covering the relevant heavy-duty equipment, which has been studied at primary school level, issued or valid by the legal authority in the country of work.[4]	At least 3 years in the field of working with specific heavy-duty equipment with an operator's license.	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 and SRC / psychotechnical examination, etc., covering the relevant motor vehicle	At least 5 years in the field of work with a specific	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

It is expected to determine the need by considering the MAOG Project Management requirements, scope, dangers and risks and to establish the appropriate organizational structure (Machine Equipment Manager / Manager / Supervisor / Supervisor / Chief / Foreman / Maintenance Follow-up Officer / Supply Officer, etc.).
Directive on Construction Machinery Driver Training Courses

Position	Professional competence	Experience	Technical Training
	issued or valid by the legal authority in the country of study. additional documents.	motor vehicle with a driver's license.	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 work machine and equipment.	A training lasting at least 4 hours, repeated once a year, containing the theoretical and practical parts by a competent person or institution, conveying the hazards and control methods of the specific construction machinery and equipment that 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 study.		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.
Signalman	Secondary education graduate, pointer training certificate issued by the Vocational Qualifications Authority and, if legally required, pointer 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.

For proof of competence and acceptance by MAOG Project Management, the following must be provided.

Professional competence

The original or certified copy of the relevant secondary or higher education diploma or graduation certificate.

The original or a copy of the relevant professional qualification certificate.

If there is no obligation for the relevant professional qualification in the country of work, a legally acceptable vocational education document is accepted.

Experience:

SSI statement showing that you have worked in the relevant task or field for the period of time or a working document or reference letter on the letterhead of the institution, stamped and signed by the authorized person.

Technical Training

The original or certified copy of the certificate containing the content, duration, date, name of the participant, the information of the training provider institution, or a letter signed by the authorized person on the letterhead of the training provider institution, which contains the same information and confirms the participation in the training.

Practical competency assessment is applied to construction machinery and work equipment operators with the precondition of meeting the minimum competency requirements specified in the competency matrix.

These competency assessments are made by the persons assigned within the organizational structure (Machine Equipment Manager / Supervisor / Supervisor / Supervisor / Foreman) by the MAOG Project Management. The following sample attachments can be used in the practical competency evaluation for operators;

- APPENDIX-2: Backhoe Loader Operator Competency Assessment
- APPENDIX-3: Concrete Mixer Operator Competency Assessment
- APPENDIX-4: Concrete Pump Operator Competency Assessment
- APPENDIX-5: Dozer Operator Competency Assessment
- APPENDIX-6: Excavator Operator Competency Assessment
- APPENDIX-7: Grader Operator Competency Assessment
- APPENDIX-8: Earthmoving Truck Operator Competency Assessment
- APPENDIX-9: Roller Operator Competency Assessment

To operators who meet the lowest competency requirements and also pass the practical competency assessment Appendix 20 Operator / Driver Passport is issued. The operator's passport is signed by the Machinery Equipment Officer.

7.2. HSE Planning of Construction Machinery and Equipment Works

7.2.1. Construction Machinery and Construction Equipment Classification

Heavy Construction Equipment: It is defined as self-propelled equipment used on an ongoing basis by a certified operator, such as Cranes, forklifts, loaders, diggers, etc.

Motor Vehicles: It is defined as self-propelled vehicles designed to travel on public roads or highways, such as cars, buses or trucks.

Light Construction Equipment: It is defined as other small equipment that does not require a licensed operator such asHand tools and drills, hand rollers, light towers, concrete vibrators, etc.

Fixed Construction Equipment: It is defined as stationary equipment that does not require a certified operator or constant supervision, such as a generator, compressor.

7.2.2. Construction Machinery and Equipment Registration List

Each construction machine and equipment used in the MAOG Project is classified and kept in a register where the following details are followed:

- The type, model, manufacturer of the equipment,
- Serial number and machine equipment code, if any, given by the MAOG Project,

- Past and future periodic test and inspection dates for construction machinery and equipment subject to periodic inspection and testing,
- For construction machinery and equipment subject to periodic inspection and testing, nonconformities encountered in the last test and inspection and their elimination.

Appendix 19 Machinery Equipment Registration List can be used.

7.2.3. Construction Machinery and Equipment Coding

All heavy-duty equipment is coded according to the equipment coding system defined specifically for the project by the MAOG Project. The determined codes are attached to the work machine and equipment so that they can be read from the outside. The coding contains at least the following information:

- Machine Type
- Machine Model
- Machine Model / Year of Manufacture
- MACHINE SERIAL NO
- Ownership status (REC property, rental, subcontractor property, etc.).

Coding applies equally to all leased and subcontracted construction machinery and equipment.

By coding the construction machinery and equipment entering the field 7.2.2. It is added to the registration list to include the details specified in the article.

7.2.4. Risk Assessment:

The risk management tool is determined and implemented according to the MAOG-RECU-GN-GNL-IS-GNL-PRG-0002-0 Hazard and Risk Management Procedure, taking into account the type of activity in which the construction machinery and work equipment are used. Within the risk management tools determined for the related activities in which machinery and equipment are used, how the dangers and risks arising from machinery and equipment will be managed are explained in detail.

7.2.5. Heavy Construction Equipment and Human Interaction

In the MAOG Project, heavy equipment and human interaction risks are evaluated and measures to reduce these risks are defined and implemented. MAOG-RECU-GN-GNL-IS-GNL-PRG-0002-0 Hazard and Risk Management Procedure and MAOG-RECU-GN-GNL-IS-GNL-PRG-00017-0 Traffic Management when assessing heavy-duty equipment and human interaction risks The MEPI Mobile Equipment and Personnel Interaction Plan Guide defined in the procedure (it is a guide in the field of planning the activities of projects / enterprises to identify and reduce risks arising from mobile vehicle - equipment traffic) is taken into account.

7.2.6. Subcontractor and Supplier Construction Machinery and Equipment

If the REC MAOG Project's machinery and equipment resources are not sufficient to meet the needs of the project, or if it is not economical to source construction equipment and equipment from a different project, new equipment may be purchased or, if possible, leased to meet the project's needs. The decision between purchasing and leasing is determined by the project need.

Subcontractors involved in the MAOG Project can use owned or leased construction machinery and equipment within their scope of work in the project.

All new and rented construction machinery and equipment brought to the MAOG Project, as well as construction machinery and equipment owned or leased by subcontractors, are recorded in the project inventory and 7.2.3. coded according to the article.

This document is valid for all construction machinery and equipment used in the MAOG Project. In this context, these document requirements apply to construction machinery and equipment owned by REC, leased by REC and/or subcontractors, and owned by subcontractors.

7.2.7. Construction Machinery and Equipment Acceptance Criteria

All construction machinery and work equipment are checked / checked before the field entrance by the persons assigned by the MAOG Project Machinery Equipment Supervisor and / or the Project Management within the organizational structure (Construction Site Machinery Equipment Chief / Foreman, etc.) before starting to work in the field.

Sample site acceptance checklists containing acceptance criteria and critical items for the type of construction machinery and equipment are included in the document appendices. When a construction machine and equipment that is not included in these checklists enters the field, the relevant checklist is prepared by the Machinery and Equipment Officer by evaluating the manufacturer's information, controlled and recorded. Construction machinery and equipment that are not found suitable during these controls cannot be accepted into the field. Construction machinery and equipment to be accepted into the field 7.2.3. A label is attached with the coding specified in the article.

At a minimum, the site acceptance date of the construction machine and equipment, the last inspection date, the next inspection date, the equipment code, plate and operator name are indicated on the label.

7.3. Construction Machinery and Equipment Safe Working Requirements

7.3.1. General Requirements

The safe use of construction machinery and equipment is related to both the competence of the employees and the suitability of the equipment. For this reason, all employees who will work with work machinery and equipment are informed about the requirements of this document.

Before starting to work with construction machinery and equipment 7.2. The requirements of the HSE Planning section of the Work Machinery and Equipment Studies are completed.

During operation, all manufacturer's instructions and manuals applicable to the functions of the equipment and the legal regulations of the country in relation to the machinery and equipment used are complied with.

When construction machinery and equipment are not used, they are parked in the environments specified in the manufacturer's written instructions, in places deemed appropriate by the MAOG Project Management, without affecting other works. Parking areas are determined and announced specifically for the project.

In the pre-shift controls and periodic inspections, it is checked that all safety equipment is in working condition. A work machine or equipment with any missing or non-functional safety equipment may not be used. MAOG-RECU-GN-GNL-IS-GNL-PRG-0021-0 Hazardous Energy Control requirements and practices are taken into account during maintenance and repair processes.

All employees are authorized by the MAOG Project Management to stop the operation of an unsafe machine or equipment by warning the operator.

All machinery and work equipment:

- Complies with the EU Noise Directive 2003/10/ EC,
- Equipped with reversing alerts,
- Equipped with seat belts for operators and passengers. (Applies to seat belts, mobile work machines and equipment.)

The service vehicles and other personnel transport vehicles where the employees are transported are equipped with a GPS-enabled tracking system (valid for construction machines that are REC property and will be out of the field.)

7.3.2. Construction Machinery and Equipment Selection

All construction machinery and equipment to be used in Renaissance are used in accordance with the intended use specified in the manufacturer's written instructions and are always kept in safe working condition.

The following are taken into account in the selection of construction machinery and equipment:

- Emission levels
- Operating conditions, including site weather and distance
- Risks posed to field workers and other persons affected by work activities,
- Working ergonomics of construction machinery and equipment, including but not limited to;
  - noise/sound,
  - Vibration
  - operating characteristics in extreme weather conditions (hot and cold).

7.3.3. TECHNICAL REQUIREMENTS

7.3.3.1. SAFETY BELT

The capacity of motor vehicles designed to transport or transport workers shall be as many as the number of seats. It is used by the driver and all passengers seated and fastened with seat belts, as specified in both the country's legislation and the manufacturer's manuals. Passengers cannot be transported in the back of motor vehicles with a safe behind them. All motor vehicles equipped with a passenger transport function are equipped and used with passenger seat belts.

All seats on machinery and equipment are fitted with fastened seat belts. It is mandatory for operators to wear seat belts during work in all mobile work machines and equipment that require the operator to sit while using the work machine and equipment.

7.3.3.2. Audible Warnings

All moving heavy-duty equipment that can be operated in forward and reverse directions is equipped with an audible reverse or movement alert designed to alert workers and other operators.

It is recommended that the audible warning be loud enough to be heard from a distance of at least 30m, unless a different requirement is defined in a noisy environment.

7.3.3.3. Cabin facilities:

Cabin windows of all construction machinery and equipment used are undamaged. Machinery and equipment with broken glass or completely removed are not used.

Glasses of construction machinery and equipment, especially excavators with breaker attachments, which are exposed to objects that may break the cabin glass during operation, are protected by using protectors against breakage. These protectors are selected from equipment approved by the manufacturer of the construction equipment and equipment, so as not to obstruct the operator's vision.

All motor vehicles and fuel-operated work equipment are equipped with emergency response equipment (fire extinguisher, red warning triangle, flashlight and first aid kit, etc.) in accordance with the relevant country legislation.

All wheeled, self-propelled scrapers, loaders, dozers, rollers, wheeled agricultural and industrial tractors, crawler loaders and graders are equipped with Rollover Protective Structure (ROPS).

7.3.3.4. Noise and Emission

Precautions are taken in all construction machinery and equipment to ensure that noise and emission levels do not harm employees or local settlements.

New machinery and equipment supplied or supplied shall comply with the legislation in force in the country of residence or, if within the borders of the European Union, EU emission standards.

Rönesans monitors and ensures that the emission levels of all relevant construction machinery and equipment are at the level of legal requirements in the country of operation.

7.3.3.5. Controls on Construction Machinery and Equipment and Emergency Stop Systems

Buttons, switches and levers providing control of all construction equipment and equipment, appropriate pictorial or multilingual indicators and signs will be clearly visible and identifiable. Controls used in the normal operation of machinery and equipment are not placed in a location where any person operating the equipment may be harmed.

The operator must make sure that no one is in the danger zone from the main control station. If this is not possible, there is an audible and light warning system that will be activated automatically before the machine starts to work.

Employees who are exposed to hazards that may arise due to starting or stopping work equipment are protected from these hazards by measures that provide sufficient time and opportunity.

All work equipment has a system that can stop the equipment completely and safely. Each work place has a control system that can stop all or part of the work equipment according to the situation of danger and keep this equipment in a safe condition. Stopping systems of work equipment must take precedence over starting systems. When the work equipment or its dangerous parts are stopped, the energy that activates them also has the feature to be cut off.

In cases where the risk of mechanical contact with the moving parts of the work equipment may cause an accident; work equipment is equipped with suitable guards or protective equipment to prevent access to the hazardous area or to ensure that moving parts are stopped before this area is reached. Their daily maintenance and controls are monitored by the Machinery Equipment Officer.

All machinery and equipment shall have one or more easily accessible emergency stop controls that will safely stop machinery and equipment as soon as possible. Emergency stop controls are easily accessible and activated.

7.3.3.6. Guards and Protective Equipment

All guards and protective equipment have the following characteristics:

- Designed and attached to an internationally valid standard appropriate for the nature and severity of risks associated with the nature and use of construction machinery and equipment,
- have sufficient strength,
- In working condition, in working order,
- Does not pose any additional risk to health or safety,
- Not easily deactivated,
- at a sufficient distance from the danger zone they are protecting,
- Does not restrict the vision that will be required for the relevant operation,

- Adapted to allow necessary routine repair or maintenance work to be performed safely.

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

Moving work equipment working on it, against the risk of tipping under normal operating conditions:

- The device is constructed to rotate no more than a quarter (90 degree angle), or
- If it rotates more than a quarter, there is sufficient clearance around the worker on it, or
- There is another protective structure or system that will provide the same effect.

In work equipment; In case of overturning, there is a protective structure or system that prevents the worker on it from being crushed by being trapped between the equipment and the ground.

To reduce the risk of forklifts with one or more employees from tipping over:

- There is a cab for the driver or
- The forklift shall be in a structure that cannot be tipped over, or
- In the event of the forklift tipping over, a structure that will provide sufficient clearance for the workers transported between the ground and certain parts of the forklift, or
- It is ensured that the forklift is in a structure that will prevent the driver from being crushed by parts of the forklift in case it falls over.

7.3.4. Operational Requirements

7.3.4.1. Operations Manuals

All applicable manufacturer's instructions and manuals for the operation of the equipment, including the machine or equipment capacities (load charts), recommended operating speeds, special hazard warnings, instructions and operating manual, are always available in the operator's cabin. If this information is missing, the machine or equipment is not allowed to operate.

Construction machinery and equipment cannot be operated to force the limit capacity value. The operator has the authority and responsibility to stop work if there is any safety concern.

7.3.4.2. Flagman

For each heavy-duty equipment, there is a flagman with a red flag and a green flag, wearing a high-visibility (LED light warning vest) work uniform, assigned separately.

Clear visual or audio communication methods are used between the flagger and heavy-duty equipment. Both parties are trained in this communication method by the Machinery Equipment Manager / Supervisor and / or by the persons assigned by the MAOG Project Management within the organizational structure (Construction Site Machinery Equipment Supervisor / Foreman, etc.).

Constant visual contact is established between the flagger and the heavy-duty equipment operator. In the absence of this contact, the operation is stopped.

Note: The perception of the employee, his physical (visual status, etc.) and psychological status, and education level are especially evaluated in the selection of the flagman. During the activity to be carried out, a selection is made among people who do not have a special situation that may pose a danger to them.

7.3.4.3. Cell Phone and Communication Tools

Machinery and equipment operators may not use mobile phones or other two-way communication devices during operation. If a task requires the use of two-way radio when operating machinery and equipment, a separate risk assessment is made.

Operators should keep their mobile phones in a closed compartment so as not to distract them while they are working, and they should also either put them on silent mode or turn them off. For other details not mentioned in this document regarding mobile phone use, Renaissance's additional workplace-specific rules regarding mobile phone use in the workplace are followed.

7.3.4.4. Refuel

A special area is allocated in the MAOG Project for the refueling of construction machinery and equipment, and refueling is carried out in this area as much as possible. During the supply, all the conditions for supply safety specified in the written manufacturer's instructions of the construction machinery and equipment are fulfilled. In the event that a special area for replenishment cannot be determined within the current conditions, the replenishment is carried out within the boundaries of the MAOG Project, and unless otherwise specified in the manufacturer's written instructions and the legal legislation of the working country, the following measures are taken:

- Refueling is done outdoors. Construction machinery and equipment engine is turned off before refueling starts and is kept off during refueling.
- The work machine, equipment and supply vehicle to be refueled are grounded.
- For refueling, the next (next) construction machine and equipment waits at least three meters away from the one currently being refueled.
- Sufficient fire extinguishers, leak kits and cleaning materials are kept ready in the supply area during the supply.
- No activities or operations that may cause open flames or sparks are carried out in the supply area, no smoking is allowed.
- Leakage pans are placed under the points where the fuel may leak during the supply.
- The gun is carefully placed in the tank and the gun is filled slowly by contacting the tank rim to prevent the build-up of static electricity.
- Before starting the engine, the operator makes sure that the pump gun is fully withdrawn from the tank and that the tank cap is properly closed.
- The supply manager records the supply information including the date, time, operator information, the volume of the fuel transferred, the construction equipment and equipment.

7.3.4.5. Installation, Dismantling and Transfer

Written instructions of the manufacturer are followed during the installation and dismantling of the construction equipment and equipment. This process is carried out by persons or institutions authorized by the manufacturer (this authorization will be documented) under the supervision and/or knowledge and approval of the Machinery Equipment Officer. Risks to the installation and dismantling process are identified and implemented using appropriate risk management tools in accordance with the MAOG-RECU-GN-GNL-IS-GNL-PRG-0002-0 Hazard and Risk Management Procedure. All measures defined in the risk assessment are conveyed to the installation and dismantling teams with on-the-job conversations before each shift.

If heavy-duty equipment is work equipment subject to periodic testing and inspection after installation, 7.4.3. It is subjected to periodic testing and inspection according to the principles specified in the article.

The manufacturer's written instructions are followed in making the construction machinery and equipment to be transferred from the field to a different location ready for transfer. The risks of all processes of preparation for transfer, loading, transportation and unloading are evaluated and recorded specifically for the transportation process. Risk assessment is carried out considering the MAOG-RECU-GN-GNL-IS-GNL-PRG-0002-0 Hazard and Risk Management Procedure. In the risk assessment to be made, the Machinery Equipment Officer will take charge personally and the identified hazards, analysis of the risks and the defined measures are conveyed to the entire transfer team with an on-the-job talk.

7.4. Control, Inspection, Test and Maintenance

7.4.1. Maintenance of Construction Machinery and Equipment

The frequency and scope of maintenance of construction machinery and equipment will be determined and implemented according to the REC experience and the preventive maintenance plan, at least at the frequency and scope specified in the manufacturer's written recommendations.

Maintenance records, schedule and scopes of construction machinery and equipment are created by the Machinery and Equipment Specialist and followed in writing.

All construction machinery and equipment in the field are kept on maintenance cards containing the dates of maintenance and the scope of the relevant maintenance. In case this information is not available on the construction equipment and equipment, this information is provided by the construction equipment supervisor or supplier upon request.

Maintenance programs cover all construction machinery and equipment. Maintenance requirements for all construction machinery and equipment include machinery and equipment for hire and used by subcontractors.

During maintenance, all safety precautions specified in the written manufacturer's instructions of the construction machine and equipment, including lockout and tagout requirements, are taken in accordance with the "MAOG-RECU-GN-GNL-IS-GNL-PRG-00021-0 Hazardous Energy Control Procedure". .

The records of the maintenance of the construction machinery and equipment, which are the property of the subcontractor and provided for rent, and the calendar for their future maintenance are recorded and monitored.

7.4.2. Construction Machinery and Equipment Controls

All heavy-duty equipment used in the MAOG Project is subjected to pre-use control by its operator before the start of each shift. Work equipment is subjected to daily inspection, except for testing, testing and non-destructive testing. During use, the equipment is visually inspected for signs of cracks, loose connections, deformation of parts, wear, corrosion, etc. In these controls, the manufacturer's written recommendations can be extended according to the heavy-duty machine type and model, and at least the suitability of the following items is examined:

- Availability of user manuals and, if any, other manufacturer's information and documents,
- Confirmation that all functions and brakes of heavy-duty equipment are working,
- Functionality of all safety equipment and breakers,
- Lubrication points, fuel and hydraulic oil levels,
- Tire pressures and suitability of tires,
- Confirmation that all lights, lighting and signals are working,
- Presence of physical damage.

The above items are developed or revised according to the type of heavy-duty equipment and manufacturer recommendations.

Before each shift, each operator keeps the heavy-duty equipment running for 5 minutes after starting, ensuring the vehicle warms up, checking all maneuvers, brakes and breakers, and performing a "pre-use check" by going over the routine check items.

Pre-shift checks must be recorded in writing for each heavy-duty equipment. However, pre-use controls can be put into writing as a result of the evaluation of the MAOG Project.

Records of pre-shift control carried out are forwarded to the Machinery Equipment Officer. Heavy-duty equipment is not allowed to be used until the nonconformity is corrected. In the items defined within the control criteria, the items that the machine / equipment should be stopped from working are determined by the relevant machinery and equipment responsible. The decision to work otherwise requires the written approval of the MAOG Project Management. If the items indicated in red in the criteria of the Annex 12 Concrete Pump Pre-Shift Checklist are missing or unsuitable, the machine and equipment will not be operated.

Pre-shift control forms for some work machines and equipment are listed below and given in the annexes of this document. Pre-shift control forms for construction machinery and equipment that are not in this list are prepared and put into practice by the Machinery Equipment Officer.

Appendix -10. Backhoe Loader Pre-Shift Checklist

Appendix -11. Concrete Mixer Pre-Shift Checklist

Appendix -12. Concrete Pump Pre-Shift Checklist

Appendix -13. Dozer Pre-Shift Checklist

Appendix -14. Excavator Loader Pre-Shift Checklist

Appendix -15. Grader Pre-Shift Checklist

Appendix -16. Earthmoving Truck Pre-Shift Checklist

Appendix -17. Loader Pre-Shift Checklist

Appendix -18. Roller Pre-Shift Checklist

7.4.3. Periodic Inspection and Tests of Construction Machinery and Equipment

Periodic controls of work equipment, whose periodic control range and criteria are not determined by standards, are carried out within the intervals and criteria stipulated by the manufacturer, if any. If these issues are not determined by the manufacturer, the periodic control of the work equipment is carried out at intervals to be determined according to the results of the risk assessment to be made, taking into account factors such as the workplace environment conditions, frequency of use and duration of use. The determined periodical control interval should not exceed one year, except for the exceptions specified in the relevant local legislation requirements.

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, before the first use after the installation / assembly of the equipment, and before use at each location change, a periodical control report containing the work approval is prepared by the authorized persons for the periodical inspection.
- 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), the periodic control of the equipment is carried out regardless of the control date.

If the legal legislation does not explain which construction equipment and equipment are subject to inspection and testing, at least the following types of construction machinery and equipment are subject to inspection and testing:

- Lifting and conveying (eg: cranes, backhoes, loaders, backhoe loaders, etc.),
- Containing pressure vessel (compressors, other pressurized process tanks)
- High temperature equipment (boilers, etc.)

The institution that will carry out the inspection and test shall have the EN/ISO/IEC 17020 accreditation obtained from the TÜRKAK institution in Turkey, covering the relevant field, and the legally accepted equivalent accreditation in the country where it is located outside of Turkey.

According to the evaluation to be made in the project, MAOG Project Management may decide to carry out these tests and inspections more frequently and in a wider scope than the legal framework.

Construction machinery and equipment, which are subject to inspection and testing, are subject to retest and inspection, without waiting for the next test and inspection date, after the changes to be made in the structural elements that perform their main functions.

In order not to limit the results to the opinions of the periodic test and inspection institution to be carried out, it is recommended that the construction equipment and equipment be tested and inspected by a different inspection institution meeting the same conditions, once in 3 inspections.

In the test and inspection carried out, the construction machinery and equipment are not allowed to operate under any circumstances until the nonconformities detected by the inspection body are completely eliminated and the approval of the inspection body that the nonconformities have been removed.

The records of the periodic inspections and tests of the construction machinery and equipment, which are the property of the subcontractor and are provided for rent, and the calendar for the periodical inspections and tests to be carried out in the future are recorded and monitored by the Machinery Equipment Officer.

7. 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.

8. RELATED FORMS

Appendix-1: Excavator Loader Operator Competency Assessment

Appendix-2: Concrete Mixer Operator Competency Assessment

Appendix-3: Concrete Pump Operator Competency Assessment

Appendix-4: Dozer Operator Competency Assessment

Appendix-5: Excavator Operator Competency Assessment

Appendix-6: Grader Operator Competency Assessment

Appendix-7: Earthmoving Truck Operator Competency Assessment

Appendix-8: Roller Operator Competency Assessment

Appendix -9. Backhoe Loader Pre-Shift Checklist

Appendix -10. Concrete Mixer Pre-Shift Checklist

Appendix -11. Concrete Pump Pre-Shift Checklist

Appendix -12. Dozer pre-shift checklist

Appendix -13. Excavator Loader Pre-Shift Checklist

Appendix -14. Grader Pre-Shift Checklist

Appendix -15. Earthmoving Truck Pre-Shift Checklist

Appendix -16. Loader Pre-Shift Checklist

Appendix -17. Roller Pre-Shift Checklist

Appendix -18. Safe working instructions for specific heavy-duty equipment

Appendix -19. Operator passport

Appendix -20. Excavator site acceptance checklist

Appendix -21. High-up crane site acceptance checklist

Appendix -22. Grader site acceptance checklist

Appendix -23. Power generator site acceptance checklist

Appendix -24. Earthmoving truck site acceptance checklist

Appendix -25. Mobile elevating work platform site acceptance checklist

Appendix -26. Mobile crane site acceptance checklist

Appendix -27. Telescopic forklift field acceptance checklist

Appendix -28. Machinery and Equipment List