

# **Occupational Health & Safety Management Plan**

Project Number: 52224-001  
December 2018

## **Total Eren Access M-KAT Solar Power Project (Kazakhstan)**

Prepared by METKA EGN KZ.

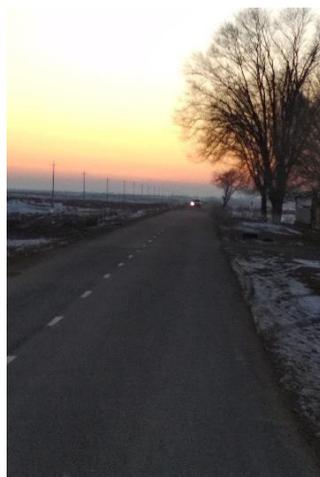
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# MKAT GREEN – TOTAL EREN MKAT PV PLANT

## ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM

### OCCUPATIONAL HEALTH & SAFETY MANAGEMENT PLAN



CLIENT:  
MKAT GREEN – TOTAL EREN

DECEMBER 2018

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Document Title	Occupational Health & Safety Management Plan (OHSMP)
Prepared By	XXX (METKA EGN KZ)
Client	MKAT GREEN – TOTAL EREN Republic of Kazakhstan Astana

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## TABLE OF CONTENTS

Section 1. Introduction .....	6
Section 2. Scope of Document .....	6
Section 3. Project Overview .....	6
3.1 Project Information - Details of Key Members of the Project Team .....	6
3.2 Description of Proposed Works .....	7
3.3 Programme of Works .....	7
3.4 Project Notification .....	7
3.5 Project Health, Safety and Environmental Policies .....	7
3.6 Project Health, Safety and Environmental Goals & Objectives .....	7
3.7 Project Constraints, Restrictions and Existing Services.....	11
3.8 Register of Key Construction Documents .....	14
Section 4. Project Management .....	15
4.1 Management Structure & Organisational Structure .....	15
4.2 Project Appointments .....	15
4.3 Communication and Continued Liaison.....	15
4.4 Design Changes Throughout Works .....	16
4.5 Selection and Control of Contractors.....	17
4.6 Health and Safety Management .....	17
4.7 Site Access .....	17
4.8 Induction .....	18
4.9 Toolbox Talks.....	19
4.10 Permits .....	20
4.11 Training.....	20
4.12 First Aid/Accident & Incident Reporting.....	20
4.13 PPE .....	20
4.14 Plant and Equipment.....	20
4.15 Breaches to H&S - RedCard/Yellow Card.....	20
Section 5. Setting of Standards.....	21
5.1 Statutory Requirements .....	21
5.1 General Site Rules .....	22
Section 6. Risk Assessments & Method Statements.....	23
Section 7. Welfare Arrangements.....	24
Section 8. Monitoring and Review.....	25

Section 9. Project Specific Health & Safety Information.....	26
9.1 Design Considerations.....	26
9.2 Ground Conditions.....	26
9.3 Deliveries.....	27
9.4 Traffic Management.....	27
9.5 Fire and Emergency Provisions.....	28
9.6 Storage of Materials.....	28
9.7 Storage and Collection of Waste.....	28
9.8 Contact With Live Services.....	28
Section 10. Site Hazards and Controls.....	29
10.1 Slips, Trips and Falls.....	29
10.2 Manual Handling.....	30
10.3 Lifting Operations.....	30
10.4 Management of Plant and Machinery.....	31
10.5 Falls From Height.....	31
10.6 Noise and Vibration.....	32
10.7 Excavations.....	32
10.8 Confined Spaces.....	33
10.9 COSHH.....	33
10.10 Asbestos.....	34
10.11 Adverse Weather Conditions.....	35
10.12 Electrical Connections, Testing and Commissioning.....	35
Section 11. Waste and Environmental Considerations.....	36
Section 12. Security Arrangements.....	37
Section 13. Complaints and External Liaison.....	38
Section 14. Health and Safety File.....	38
Appendix 1. Pre Start Information Pack.....	39
Appendix 2. Project Notification/Approval.....	43
Appendix 3. Site Layout Drawing.....	44

**ACRONYMS**

<b>EPC</b>	Engineering, Procurement and Construction
<b>ESMS</b>	Environmental and Social Management System
<b>HR</b>	Human Resources
<b>H&amp;S</b>	Health and Safety
<b>HSSE</b>	Health, Safety, Social and Environmental
<b>KPI</b>	Key Performance Indicator
<b>LMP</b>	Labour and Working Conditions Management Plan
<b>MP</b>	Management Plan
<b>MR</b>	Management Response
<b>OHS</b>	Occupational Health and Safety
<b>PPA</b>	Power Purchase Agreement

## 1. INTRODUCTION

The project of a 135 MW Solar photovoltaic power plant M-KAT(SPP) in Zhambyl Region. The project will be implemented by SPV M-KAT GREEN LLP (Client). Of the 500 hectare leased land, 489 ha will be fenced to accommodate nearly 401 760 sun-tracking PV panels, 32 inverters and 32 substations that are connected to the high voltage substation from where a 12km 220kV powerline will run to a transit national network substation. An open switch unit will be constructed at this substation.

The Project requires an Environmental and Social Management System (ESMS) to manage compliance with its environmental and social obligations.

As the project is in the Republic of Kazakhstan and is financed by M-KAT Green- Total Eren the ESMS must be aligned with both the RoK requirements and the International standards. The ESMS for the construction phase includes the following

- Environmental and Social Management Plan (ESMP)
- Traffic Management Plan (TMP).
- Health and Safety Management Plan (HSMP).

This document is the Health and Safety Management Plan (HSMP)

## 2. SCOPE OF DOCUMENT

This document forms the Construction Phase Health and Safety Management Plan and takes into account the local RoK legislation and the International performance standards. This plan will be used in conjunction with the existing Safety and Environmental Management Plans utilised by METKA EGN under OHSAS18001 & ISO14001.

The document covers how the project will follow METKA EGN Safe Management System throughout the construction phase.

## 3. PROJECT OVERVIEW

### 3.1 PROJECT INFORMATION - DETAILS OF KEY MEMBERS OF THE PROJECT TEAM

Project Director	
Company:	METKA EGN KZ
Company Address:	The Republic of Kazakhstan Almaty City Almaty District Tole Bi, 155
Name:	<b>XXX</b>
Project Manager	
Company:	<b>METKA EGN KZ</b>
Company Address:	The Republic of Kazakhstan Almaty City Almaty District Tole Bi, 155
Name:	<b>XXX</b>
Construction Manager	
Company:	<b>METKA EGN KZ</b>

Company Address:	<b>The Republic of Kazakhstan Almaty City Almaty District Tole Bi, 155</b>
Name:	XXX
<b>Senior HSE Manager</b>	
Company:	<b>METKA EGN KZ</b>
Company Address:	<b>The Republic of Kazakhstan Almaty City Almaty District Tole Bi, 155</b>
Name:	XXX
<b>Site HSE Manager</b>	
Company:	<b>METKA EGN KZ</b>
Company Address:	<b>The Republic of Kazakhstan Almaty City Almaty District Tole Bi, 155</b>
Name:	XXX
<b>Designer</b>	
Company:	<b>METKA EGN LTD</b>
Company Address:	<b>99 White Lion Street, Islington, London N1 9PF</b>
Name:	XXX
<b>General Contractor</b>	
Company:	<b>SAUIR KURYLYS LLP</b>
Company Address:	<b>The Republic of Kazakhstan Almaty City</b>
Name:	XXX
<b>Client - Director</b>	
Company:	<b>M-KAT GREEN</b>
Company Address:	<b>The Republic of Kazakhstan Astana City</b>
Name:	XXX

### 3.2 DESCRIPTION OF PROPOSED WORKS

The proposed works on site comprise of the development of Photovoltaic (PV) modules, framework and associated infrastructure and landscaping and includes:

- Site Setup
- Piling
- Photovoltaic panels and framework
- Excavations and earthworks (including connection to Substation)
- Inverter building • Transformers
- Substation.
- Linkup access roads
- Security Fencing
- Commissioning Works

- CCTV posts and installation
- Transmission Line installation

This list is not exhaustive and is indicative only.

### **3.3 PROGRAMME OF WORKS**

The works on site are due to start December 2018 and it is anticipated that they will continue until February 2020.

A full programme of works is contained within the Construction Phase Health & Safety Plan in Appendix 2.

### **3.4 PROJECT NOTIFICATION**

The project has been notified to the RoK local authorities for approval and has been granted permission to proceed.

### **3.5 PROJECT HEALTH, SAFETY AND ENVIRONMENTAL POLICIES**

METKA EGN will remain as Principal Contractor for the remainder of the works. Copies of the existing Health and Safety Policies will be displayed at all times within the site office and canteens.

METKA EGN operates a Safety Management System (SMS) OHSAS18001 & ISO14001 that will be implemented and maintained for the duration of the works.

To ensure full compliance to the RoK HSSE law, legislation and regulations METKA EGN have employed a local HSSE professional to oversee all HSSE matters.

### **3.6 PROJECT HEALTH, SAFETY AND ENVIRONMENTAL GOALS & OBJECTIVES**

The Standards to be set on this project as a minimum will comply with international Occupational Health & Safety regulations and standards (for example, Industrial Safety in RoK , OSHA standards and the IFC General Environmental, Health and Safety Guidelines (IFC, 2007a) in addition to the RoK safety standards regarding construction works, electrical works, and other hazards. In general, construction operations will be planned and implemented in accordance with these standards and with IFC EHS guidelines (IFC, 2007a).

Basic standards to be observed are contained in the following documents:

- Hygienic Norms (GN);
- State Classifiers (GK RK);
- State Standard of the Republic of Kazakhstan (ST RK);
- Interstate Standard. System of Occupational Safety and Health Standards (GOST SSBT);
- ISO, OHSAS Standard;
- Sectoral Standard (OST);
- Safety Rules (PB);
- Fire Safety Rules and Norms (PPB, GNPB, PPBS);

- Occupational Safety Rules (POT);
- Rules of the Republic of Kazakhstan (PR RK);
- Republican Regulatory Document (RND);
- The Governing Document (RD)

METKA EGN is fully committed to the health and safety of its employees and others who may be affected during the construction phase.

METKA EGN is fully aware of its obligations under the Health & Safety law and related legislation and is fully committed to meeting those obligations.

METKA EGN will ensure that all workers and site visitors are to comply with all site rules and safe working practices.

METKA EGN will strive to ensure its operations reduce the levels of risk of personal injury, damage to health and damage to a level which is as low as reasonably practicable (ALARP).

METKA EGN will ensure that adequate resources for the management of health and safety are provided.

METKA EGN is committed to the prevention of accidents and ill health and the promotion of wellbeing for everyone involved in the project and anyone who may be affected.

METKA EGN will maintain a compliant project with all applicable legislation, planning conditions, consents, licenses and permits.

METKA EGN will always seek to protect and enhance biodiversity and ecology.

METKA EGN will optimise positive and minimise adverse impacts on land, water, and noise and air quality through design, construction and maintenance.

METKA EGN will ensure the development and maintenance of a positive HSE culture, throughout the supply chain and across the site, through effective leadership and engagement.

METKA EGN seeks to reduce waste throughout the construction phase through design and good working practices and endeavours to recycle as far as reasonably practicable.

METKA EGN will establish a risk management methodology to manage hazards, maintain and improve health and safety standards for employees and contractors.

METKA EGN's target of this project is to be completed with no reportable incidents.

Housekeeping/Waste Management will be maintained on site in accordance with local waste and environmental procedures as laid down in ESMS and in line with METKA EGN Waste Management Plan.

METKA EGN, as Principal Contractor, have their own appointed health and safety advisors throughout the works to ensure that all parties fulfil their duties under all supporting project management plans.

### **3.7 PROJECT CONSTRAINTS, RESTRICTIONS AND EXISTING SERVICES**

Project Constraints:

The site is very close to the village of Alga with neighbouring properties. However, as we will use a number of local workers to assist with the project, we are anticipating the number of problems with complaints to be minimal.

Construction and Delivery Hours:

Construction and Delivery Hours will normally be between 08:00 and 18:00 Monday to Saturday. These hours can be modified but must be in liaison with the client. Furthermore, peak traffic times (morning and evening) will be avoided where possible through logistical arrangements to reduce the changes of vehicle conflict on all approach roads to the site.

Environmental and Flood Report:

Because of high continental climate in this region of Kazakhstan the project site area experiences seasonal hot summer and cold winter.

Assessment of Impacts:

During construction earthworks, road construction and use of heavy vehicles could alter surface drainage patterns. The removal of vegetation and compaction of soils will reduce infiltration and surface run-off will increase. The risk is greatest during severe precipitation events. The increased volume of water flowing down drainage channels and creeks is likely to cause additional soil erosion and increase the size of the channels. Surface run-off will also contain larger amounts of suspended sediments during construction than would otherwise be the case.

Archaeology and Cultural Heritage:

A wide range of area is grassland being predominantly used for the pasture. No records about archaeological heritage were reported.

#### Ecological:

The Project site has been chosen to avoid the areas of highest ecological sensitivity and therefore, the proposed Project will not result in direct negative impacts on more sensitive areas such as Protected Sites.

#### Indirect Impacts:

Indirect impacts associated with construction include disturbance of fauna as a result of construction activities, noise and movement of vehicles and people as well as pollution.

#### Construction Area Mitigation measures:

Mitigation will be put in place ensuring that all construction traffic and workers do not move outside the recognised construction area and avoid the adjacent area. A ban will also be enforced on all hunting activities and speed limits must be strictly adhered to within the construction zone. Machinery should also be regularly maintained to reduce potential noise disturbance.

Additional measures are covered in detail in the Environmental and Social Impact Assessment and should be read in conjunction with this plan and supporting plans.

#### Existing Services:

##### Gas:

No information on any apparatus has been given in the pre-construction information and is unlikely to exist. However, gas pipes owned and installed by gas transporters and privately owned pipes might exist. Therefore, extreme care **MUST BE** taken when excavating and a Cat & Gen scan **MUST BE** carried out before any shovel breaks the ground.

##### Electricity:

No information on any electrical apparatus has been given in the pre-construction information therefore, extreme care **MUST BE** taken when excavating and a Cat & Gen scan **MUST BE** carried. The **(OHL) connected to the distribution transformer providing the power to the project**. Basic Electrical Safety is a Top Priority policy which will be implemented all over the site.

##### Water:

At the time of writing this construction phase health and safety plan no water utility searches were available. As above a CAT and Gen scan **MUST BE** carried out before any shovel breaks the ground.

##### Telecoms:

At the time of writing this construction phase health and safety plan no telecom systems were discovered.

##### Stability of Structures:

- METKA EGN will take all steps to ensure that any workers carrying out construction work in, on or around any new or existing structure does not collapse, become unstable or cause any danger due to its instability.
- Any buttress, temporary support or temporary structure must:
  - Be of such design and installed and maintained so as to withstand any foreseeable loads which may be imposed on it and only be used for the purposes for which it was designed, installed and maintained.
  - No structure on site must be loaded so as to render it unsafe to any person.

Item/Drawing Title	Location
Site & Location Plan	Site Office
Environmental and Social Policy	Held in site office
Traffic Management Plan (TMP).	Held in site office
Occupational Health and Safety Management Plan (OHSMP).	Held in site office
Health and Safety Emergency Preparedness and Response (H&S EPR) Plan.	Held in site office

## 4. PROJECT MANAGEMENT

### 4.1 MANAGEMENT STRUCTURE - ORGANISATIONAL RESPONSIBILITIES

Principal Contractor:

- The development and implementation and update of the Construction Phase Health and Safety Plan.
- Ensuring compliance with the Construction Phase Health and Safety Plan.
- Ensuring the coordination of all contractors.
- Ensuring that adequate risk assessments and method statements are prepared and reviewed.
- Ensuring that effective health and safety communications and liaison is established and maintained.

- Verify that Contractors have adequate information about the health and safety risks.
- Verify that Contractor operatives are appropriately trained and competent for the work undertaken.
- Ensuring that adequate training continues to be provided, i.e. induction and toolbox talks.
- Ensuring that adequate welfare facilities are provided and maintained to good standard.
- Monitor health and safety performance of contractors and the overall site safety performance.
- Ensure that all accidents and incidents are reported and investigated.
- Ensure that, where applicable, events falling within the remit of the “Reporting of Incidents, Diseases and Dangerous Occurrences Regulations” (RIDDOR) are reported accordingly.

Main Contractor:

- To provide information to the Principal Contractor for the Construction Phase Health and Safety Plan concerning risks to health and safety arising from their work.
- To provide information to the Principal Contractor regarding the steps they will take to control and manage risk.
- To manage their works to comply with the Construction Phase Health and Safety Plan.
- To comply with all relevant Health and Safety legislation.
- To comply with site rules.
- To ensure only appropriately trained and competent personnel are used.
- To provide information for the Health and Safety File.
- To report all injuries, incidents and ill health events.

Project Manager:

The project manager is to ensure that all the requirements of the SMS are undertaken at the start of contract.

The PM is responsible for monitoring the entire course of the project from the first day until the point at which it is handed over the O&M team, and should keep a close eye on all construction activities.

METKA EGN has appointed the safety advisors/site manager who will be on site daily to monitor performance against the Construction Phase Plan and the SMS.

The site HSSE Manager must:

- Understand and apply the company Health and Safety plan to the site for which they have responsibility.

- Understand host nation HSSE law, legislation and IFC PS in order to ensure we remain compliant throughout the construction phase.
- Ensure that site rules are conveyed to all site works/visitors.
- Organize the sites in such a way that works are carried out with the minimum risks to the employees and other persons who may be affected.
- In appropriate circumstances to issue written work instructions to the site operatives and other persons who may be affected.
- To maintain and supervise the site accident book and such other registers as shall be required by statute.
- Ensure that inspection of equipment, machinery and harmful substances shall be carried out frequently and by competent persons.
- Ensure that others under their control are aware of their duties and obligations and they do not permit employees and other persons who may be affected to take any unnecessary risks.
- Make arrangements for the safe off-loading of plant and materials from vehicles on and its safe and secure storage.
- Plan and maintain a tidy site.
- Communicate and allocate responsibility to contractors and others having cause to visit the site from time to time.
- Check that all site machinery, powered tools, plant and safety equipment is properly used and maintained.
- Ensure that supplies of personal protective clothing are adequate, properly used and maintained and issued when required.
- Ensure that first aid facilities are provided and that all persons on site are aware of their location.
- Ensure that adequate liaison and communication is established with local emergency services and that they may gain access to the site.
- Ensure that adequate fire precautions and adequate fire-fighting equipment and access are maintained.
- Ensure that any accident resulting in an injury to any person is adequately treated and is reported in accordance with company policy.

Subcontractors:

All contractors will operate in accordance with the METKA EGN's procedures, site specific rules and Clients requirements, as explained both within the site induction process and in the contract documentation.

All contractors shall co-operate with each other to facilitate the safe operation of site activities.

All contractors either failing to meet those site rules that are governed by zero tolerance or those failing to comply with safe practices/provision of safe tools and equipment will be asked to remove themselves and their equipment from the site.

A copy of the METKA EGN organisational chart is contained within the METKA EGN SMS.

Operations and Maintenance:

Once the construction phase is complete and commissioned it will be handed over to METKA EGN O&M team, all O&M works on the power plant will be in accordance with the operations and maintenance procedure MEG/HSE/HSP/0015. This procedure covers areas of responsibility, contractor compliance to HSSE and competencies required to work. In addition, if any works fall into construction works category then a separate construction phase health and safety plan will be produced to cover the works.

Location and route to the Nearest A&E:

The nearest medical establishment to the project is a clinic in Alga village



From Site Entrance North

After exiting the Project Main Entrance-North  
You reach the asphalt-covered road.

You should turn right on this main asphalt road running  
through the village of Alga

Move straight approximately 200 meters  
On the left hand you will see a clinic of Alga village.  
Contact telephone number: 103

#### **4.3 COMMUNICATION AND CONTINUED LIAISON**

Information that affects the Health and Safety of the project will be brought up at daily site meetings and information will be passed to all members of the project team.

Consultation with the Workforce, METKA EGN will provide all contractors and workers under their control with the information and instructions they need to carry out their work without risk to health and safety. It is essential that all health and safety information pertaining to the project or individual task be disseminated to the correct parties. Health and safety information exchanged between contractors on site will be kept if and will form part of the annexes to this construction phase plan.

If any modifications are made to the Health and Safety Plan then these modifications will be notified to all relevant parties as soon as practicable.

The site workers will be kept aware of Health and Safety information on the site notice-board and site Health and Safety File.

Measures to be taken to maintain a fire protection belt at least 4m wide at the northern part of the site and 5m at the southern end where grass is thicker and higher and suggests that the belt should be ploughed before each summer.

Any information pertinent to the Health and Safety File shall be copied to the Principal Designer.

#### **4.4 DESIGN CHANGES THROUGHOUT WORKS**

Where changes are made to the design that has Health and Safety implications, they shall be brought to the attention of the Principal Designer and Client. Procedures shall be established with the design team in order that the Principal Designer has the opportunity to review appropriate design risk assessments and co-ordinate with the Contractor. Any appointed Designers will be provided with all necessary information to enable design to take into account other works, and other design elements, in selecting the most appropriate options.

Each element of design will be developed by the designer on the basis of risk assessments regarding execution, maintenance, repair and subsequent demolition and dismantling.

Each element of design shall be submitted in sufficient time to permit proper consideration of Health and Safety issues.

The Construction Phase Health and Safety Plan will be updated, amended, and modified as necessary to address any Health and Safety risk associated with individual design elements developed during the works, so that all times the plan may be considered suitable and sufficient.

#### **4.5 SELECTION AND CONTROL OF CONTRACTORS**

All Sub-Contractors engaged on the project/contract shall complete a Sub-Contractor health and safety questionnaire (MEG/HSE/HSF/0022), which shall be reviewed at the pre-contract meeting.

Prior to being allowed to work all contractors/workers must provide evidence of competencies showing that they hold the correct level of qualification to undertake the works i.e. Plant operators, Electricians, Carpenters. If the contractor is a non KAZ Company these must be translated through a recognised translation service and then sent for gap analysis through a designated national agency for the recognition and comparison of international qualifications and skills; These will additionally take into account of any local legislations and approved codes of practices for the Kazakhstan.

The control of all contractors and subcontractors on site will rest with the project manager whom will delegate some of his duties to the site manager on a daily basis. It is imperative that a good health and safety culture is established from the very onset of the project.

Workers will require closer supervision and control if they are young, inexperienced, or starting a new work activity. Other factors that should be considered when assessing the level of supervision needed include the level of individuals' safety awareness, education, physical agility, literacy and attitude. Even experienced workers may need an appropriate level of supervision if they do not have some or all of the skills, knowledge, training and experience required for the job and the risks involved. Workers should always know how to get supervisory help, even when a supervisor is not present.

Short service employees are rarely employed on projects. However, if we had any SSEs they are identified when coming onto our sites through our control of subcontractor process and induction procedure, this is also highlighted through daily site meetings where workers and activities is discussed formally. Should any require monitoring then they will be under the direct supervision of the lead hand for that particular task.

Managing people to prevent and control the risk requires good leadership. METKA EGN will demonstrate visible leadership through the actions of their managers. These actions include setting standards for working practices and providing an example by following them. Leaders in health and safety should have a strong grasp of what is needed in a given situation, make clear decisions, and be able to communicate effectively. By sticking to these standards and following this plan a good relationship and control of all contractors on site can be achieved. The site office will maintain an open-door policy throughout the build so that control and communication remains effective.

Risk assessment and method statements are required for all construction and commissioning tasks undertaken and are required to be signed off. These are to be submitted to METKA EGN prior to the start of the relevant work activities in sufficient time to allow review. A minimum of two working days is required. The site manager will review and approve all contractors risk assessments and method statements prior to commencement of works.

The following documents will be supplied and reviewed:

- Company Health and Safety Policy Statement. • Company Health and Safety Policy Document.
- Employers Liability Insurance Document.
- Public Liability Insurance Document.
- Environmental Policy Statement.
- Copies of RAMS.

#### 4.6 HEALTH AND SAFETY MANAGEMENT

METKA EGN will be responsible for the health and safety of its employees, visitors and contractors.

METKA EGN will maintain all statutory inspections of plant, equipment and workplace. These will be maintained within the METKA EGN Safety Management System held on site.

The project notification for the project will be displayed for the duration of the project.

Each contractor will sign in and out of site and records will be maintained.

Site safety will be monitored daily by the Site Manager and weekly by the Project Manager. Records of inspection will be maintained within the METKA EGN Safety Management System.

A site filing system will be used to retain copies of relevant documentation on site. The filing system will be separated into 6 folders:

- Folder 1 - Site Management, Risk assessments and Method statements
- Folder 2 – Emergency planning, Accident and investigation, Audits and Legislation
- Folder 3 – Permits briefings, tasks work logs, control of subcontractors and safety meetings.
- Folder 4 – Work equipment inspections, Site inspections and Lifting equipment.
- Folder 5 – Training certification, Project plans, Utility plans, Project notifications, logs and registers.
- Folder 6 - Environmental and Waste management plan.

METKA EGN will undertake regular site safety inspections. These are recorded both in hard and soft copies and left on site, retained for our files and issued to METKA EGN head office.

All persons entering the site to complete works will be subject to a site induction; this will be completed by the site manager.

METKA EGN expects all Sub-Contractors to complete 'Tool Box Talks'. These are recorded and maintained within the Safety Management System.

#### **4.7 SITE ACCESS**

The site entrance is via the village of Alga the proposed construction traffic route to the site along public highway will be finalised in the Traffic Management Plan. This information will be provided to all suppliers as soon as it is available.

#### **4.8 INDUCTION**

All Sub-Contractor personnel shall attend METKA EGN's site health & safety induction prior to the start of works. The Sub-Contractor is responsible for giving adequate notice to the Project Engineer and Site Manager of new starters, to enable preparations to be made for the induction to be carried out.

Site inductions will also be provided to those who do not regularly work on the site, but who visit it on an occasional (e.g. architects) or once-only basis (e.g. visitors). The inductions should be proportionate to the nature of the visit. Inductions provided to escorted visitors need not have the detail that unescorted visitors should have. Escorted visitors only need to be made aware of the main hazards

that they may be exposed to, the control measures and emergency procedures. **No one whatsoever may enter the site without receiving an induction.** A record of all inductions is kept in the H&S files on site.

#### 4.9 TOOLBOX TALKS

Sub-Contractors shall complete toolbox talks as required. Evidence of toolbox talks will be issued to METKA EGN to be logged weekly by the site manager (MEG/HSE/HSF/0002- Folder 5).

#### 4.10 PERMITS

All high risk activities are to be carried out under “Permit to Work Systems” procedure, as issued by the appointed person. As a guide the following activities are deemed to be High Risk:

- Hot work (MEG/HSE/HSF/0035 – Folder 3).
- Electrical work (MEG/HSE/HSF/0024 – Folder 3).
- Work in confined spaces (MEG/HSE/HSF/0025 – Folder 3).
- Digging/Piling/Fence (MEG/HSE/HSF/42A – Folder 3).
- WAH (MEG/HSE/HSF/0054 – Folder 3)

#### 4.11 TRAINING

In accordance with the client H&S requirements all contractors, sub-contractors, workers and visitors must provide supply copies of training records to METKA EGN. METKA EGN will log the receipt of these records under training/competencies in Folder 5.

#### 4.12 FIRST AID/ACCIDENT INCIDENT REPORTING

First Aid cover is provided in part by METKA EGN but Sub-Contractors are expected to have First Aid cover and provisions. The numbers of First Aiders on site are logged weekly. (MEG/HSE/HSF/0014 – Folder 5)

All accidents involving injury are recorded in the Accident Investigation Report (in a hard copy and electronically)

All accidents, incidents and near misses must be reported to the site HSSE manager immediately for investigation and close out. Coupled with this, all accidents & incidents are also to be reported to the Client via the project manager. During the induction process all workers are to be issued with a near miss card and briefed on how and why it must be completed if a worker is involved or witnesses a near miss or incident.

Reporting of all accidents and dangerous occurrences as detailed in METKA EGN SMS Accident reporting & Investigation and recorded on the appropriate investigation forms (MEG/HSE/HSF/0026, MEG/HSE/HSF/0026A, MEG/HSE/HSF/0026B & MEG/HSE/HSF/0027 – Folder 2).

Any event falling within the remit of RIDDOR will be reported by the relevant contractor within the prescribed intervals. All RIDDOR events must be reported to METKA EGN and the Client immediately and the local HSE departmental authority if applicable.

A detailed map showing the route to the nearest hospital will be held within the site office and canteens including contact details.

The site HSSE manager will be responsible for the maintenance of the first aid kit, ensuring that it is fully stocked with the required provisions.

The Health and safety notice board will display the appointed first aider details on site and the contact details of this person and also the location of the first aid kit, which will form part of the site induction.

#### 4.13 PPE

The following must be worn at all times:

- Safety Helmets (EN397) - The only exception that will be made is in the case of Sikhs, whilst they are wearing a turban.
- High Visibility Vest (EN471) Class 2 - Colour yellow except for the banksman who will wear an orange high visibility vest.
- Safety Foot Protection (EN345 or EN346) - The activity being carried out will also dictate the type of safety footwear to be worn (i.e. when concreting, safety Wellington boots will be worn).
- Hand Protection - Gloves offer different protection for different activities and are mandatory for all works.
- If identified in RAMS then eye protection must be worn and must be fully compliant with BS.

#### 4.14 PLANT AND EQUIPMENT

The Sub-Contractor is responsible for the maintenance of site plant and equipment. All plant on site must be recorded on plant log in Folder 4. These include:

The site manager is to ensure that only trained and qualified personnel operate plant and machinery, copies of all relevant qualifications are to be held within the site files.

#### 4.15 BREACHES – RED CARD/YELLOW CARD

METKA EGN complete site safety inspections on all sites and all Sub-Contractors' works. Breaches to health and safety legislation, approved codes of practice, site rules and/or the Construction Phase Health and Safety Plan may result in the Sub-Contractor being issued with a Yellow Card. The accumulation of two Yellow Cards will result in the issue of a Red Card on the next offence. The issue of a Red Card may result in an operative being asked to leave site or the termination of the Sub-Contractor's contract.

A Red Card may be issued without the issue of the Yellow Cards if a major breach is identified.

METKA EGN will keep a log of all Red and Yellow Cards issued per contractor on the METKA EGN Red and Yellow Card Issue Log (MEG/HSE/HSF/0004 – Folder 3 control of subcontractors).

## 5. SETTING OF STANDARDS

### 5.1 STATUTORY REQUIREMENTS

M-KAT GREEN – TOTAL EREN and its contractors will comply with international Occupational Health & Safety regulations and standards (for example, European Union Council Directive 89/391/EE, Code of Federal Regulations (1974) 39 FR 23502 (OSHA standards) and the IFC General Environmental, Health and Safety Guidelines (IFC, 2007a) in addition to the RoK safety standards regarding construction works, electrical works, and other hazards. In general, construction operations will be planned and implemented in accordance with these standards and with IFC EHS guidelines (IFC, 2007a).

There will be a workforce manager in charge of all activities, and in charge of compliance with health and safety requirements. This individual will report directly to the METKA EGN and M-KAT GREEN TOTAL-EREN project manager and will have independent lines of reporting to M-KAT GREEN – TOTAL EREN upper management. All construction workers (including contractors) will be required to complete a training program that covers the safety program, training will cover hazard awareness, job and site specific hazards, emergency procedures for fire, illness or injury, and natural disaster.

In addition to national standards METKA EGN will operate under OHSAS18001 and ISO14001 management systems to ensure international standards of health, safety and environmental are observed on this project.

### 5.2 GENERAL SITE RULES

- All personnel shall undergo induction training completed by METKA EGN.
- No works are permitted on site without the Appropriate 'Permit to Work'.
- Any person found to be interfering with or misusing fixtures, fittings or equipment provided in the interest of health, safety or welfare will be excluded from the site.
- Smoking will be prohibited unless within dedicated smoking areas.
- Visitors must report to the site offices and will be allowed entry at METKA EGN discretion. Whilst on site visitors are to wear the appropriate PPE and remain under supervision of the Site / Contracts Manager.
- Vehicle drivers must wear a safety helmet at all times when outside of cabs and at all times when in open top vehicles. Vehicles are not to be reversed in construction areas unless under the control of an authorised slinger/ banks man.
- Persons must remain in their vehicles until they have reached their designated development plot or associated car park. Pedestrians must adhere to designated pathways and crossing points.
- Safety signs and notices must be followed.
- All plant and equipment must be stored within the site compound area.
- Radios or personal stereos are not to be used.
- The use of mobile phones in construction areas is strictly prohibited.
- All site personnel, for their own safety and for the safety of others, are required to fully comply with their employer's method statement and risk assessments.
- Site fire and emergency alarms, equipment and instructions are designed to protect life. They must be followed.

- All personnel are required to wear high visibility vest / jacket, safety helmet, safety footwear, gloves and glasses / goggles. The standard of such PPE will be that as detailed within the relevant risk assessment.
- The consumption of alcohol and drugs is prohibited. Anyone found to be under the influence of drugs or alcohol, unless prescribed and brought to the attention of site management will be dismissed from site.
- No person is to operate any mechanical plant or equipment unless they have been trained and certificated as competent.
- Any mechanical plant or equipment found to be defective is not to be used.
- Ladders are only to be used as work platforms for tasks of short duration and only if no alternative means of access is readily available. Ladders must always be secured to a structure or securely 'footed' by another person whilst in use.
- Food is only to be consumed in the designated accommodation / messing areas.
- No personnel shall indulge in fighting, horseplay or practical jokes within the site perimeter.
- Shorts and bare torsos are not permitted on site.
- All persons must strictly comply with their employer's safe systems of work – especially PPE requirements, and conduct themselves in an orderly manner at all times.
- Vehicle movements are to be controlled using a Slinger / Banksmen.
- All site plant and equipment must be designed and fit for the task for which it is being used.
- All maintenance operations are to be carried out by trained & authorised persons.
- Unauthorised persons are not permitted to alter safety precautions that are in place.
- All site employees are to undertake a site toolbox talk by their employer regarding their method statements/safe systems of work before starting work on a new activity.
- All accidents/incidents are to be reported to the Principal Contractor's site supervisor and be verified by their respective Employer if not a Principal Contractor's employee.
- All site hazards are to be guarded and signed.

**STOP Works** – All workers are informed through the induction process that all have responsibility for H&S and any worker can STOP works if they deem it unsafe to themselves or others. If STOP WORK is called, then prior to any resumption the site project team MUST investigate the conditions surrounding the cessation of work to determine the cause. This includes Near Miss reporting as by going through this process it could help to prevent an accident later on. If STOP WORK is called whilst working under a PTW then the whole permit should be surrendered and reviewed prior to reissuing.

The above list is standard; the Site Manager has the authority to add to the above at his /her discretion as the site activities dictate.

A copy of the site safety rules are to be displayed in the all site offices and canteens.

## 6. RISK ASSESSMENTS & METHOD STATEMENTS

Task specific risk assessments and method statements will be produced by the Sub-Contractors as part of their works and issued to METKA EGN for comment/approval. A log of all received Risk Assessments & Method Statements will be maintained (MEG/HSE/HSF/0001 MS and RA Log – Folder 1). The Project Manager/site HSSE Manager is responsible for collating and assessing all subcontractor risk assessments. A copy of METKA EGN risk assessment should also be kept on file MEG/HSE/HSF/0017

a copy of which can be obtained through METKA EGN. Work will be prevented from commencing if risk assessments are not received or are deemed inadequate for the task.

6.1 In addition to Risk Assessments all workers are expected to conduct a point of works risk assessment following the SLAM method detailed below:

- **Stop** - Think through the task. In other words, engage your mind before your hands.
- **Look** - Always inspect the work area for potential hazards, before, during and after the task. Evaluate what must be done in respect to the potential hazard.
- **Assess** – Determine if you have the proper knowledge, skills, training and tools to do the task. Always consider the hazard to others in the area and environment.
- **Manage** – Take the appropriate action to eliminate or minimize any hazards that make the risk unacceptable. Ensure that the proper equipment is used and that it has been well maintained. Take account of the task just completed and address unplanned occurrences and plan for them in the future. Finally, share this information with other colleagues.

6.2 The following method statements are anticipated for the contract. This list is not exhaustive and may be revised as necessary:

- Site Logistics and enabling works;
- Management of Site Traffic;
- Loading and unloading of vehicles;
- Piling and mounting structure installation;
- Electrical installation;
- Construction of foundations;
- Installation of services;
- Scaffolding and access equipment; • Security and safety of the public; and
- Traffic Management Plan.
- Excavation works

## 7. WELFARE ARRANGEMENTS

7.1 The provision of welfare facilities on this project shall comply with national and international standards and will be provided by our contractor as RoK ratified the basic international standards.

7.2 At the commencement of the project and at the completion of the project, when operative numbers are low, **Sites with less than 8 people** – METKA EGN will have mobile combined units available:

7.3 Welfare facilities on site will include the provision of the following:

- A site office will be supplied for the purpose of site management, meetings and inductions.
- Pre-fabricated toilet units will be supplied and located in the main welfare facility area. The unit will comprise of three toilets, three urinals and three wash basins as a

minimum. Due to the large nature of the site 2-6 portable toilets will be supplied and positioned near to where the operatives are working and emptied weekly as a minimum.

- Drying rooms will be supplied and located in the main welfare facility are. The likelihood of severe inclement weather is high in the wet season so therefore needs to be sufficient to enable all operatives to dry clothes at any time.
- Canteens will be supplied to accommodate the operatives on site and will provide potable water and means of heating food as a minimum. This will be situated in the main welfare facilities area adjacent to the site office.

7.4 The canteens will include a potable water supply, means for heating food and seating. Bottled potable drinking water will be brought into site to ensure quality of health.

7.5 Non potable water will either be provided through a local groundwater well whereby a study of groundwater will be done for quality and quantity or will be brought in by tanker.

7.6 As part of the SMS, METKA EGN will regularly check the adequacy of the welfare facilities.

7.7 It is anticipated that at peak there will be up to 500 persons on site and welfare facilities will be provided in accordance with the guidance below.

7.8 **Site with 6-50 people** will have welfare similar to the below:



7.9 **Sites with 50-100 people** – will have site welfare established to the following layouts:



## 8. MONITORING AND REVIEW

8.1 METKA EGN ensures that HSSE performance is monitored throughout construction which will include the following:

- 8.2 METKA EGN will hold daily meetings with all contractors prior to works and on completion of works to ensure that all HSSE matters are covered.
- 8.3 Daily toolbox talks prior to start works of work for all CONTRACTOR PERSONNEL on PROJECT SITE.
- 8.4 That Daily / Weekly Inspections are carried out and recorded in the appropriate registers Folder 4).
- 8.5 Regular site safety meetings will be carried out and will include a review of accidents and incidents, a review of safety audit reports and an assessment of future requirements.
- 8.6 Weekly HSSE performance review.
- 8.7 METKA EGN will monitor and report in accordance with the KPI's in the ESMS.
- 8.8 Regular site safety meetings will be carried out and will include a review of accidents and incidents, a review of safety audit reports and an assessment of future requirements.

## 9. PROJECT SPECIFIC HEALTH AND SAFETY INFORMATION

### 9.1 DESIGN CONSIDERATION

Designers risk assessments for the works are contained within the specific pre-start information packs and should be read in conjunction with this document.

Regular design and progress meetings shall be established between METKA EGN and the necessary Designers and Client representatives. Meetings shall be recorded and safety will be a subject on the agenda.

### 9.2 GROUND CONDITIONS

A ground investigation has been completed as part of the preliminary works on site and information is provided within the pre-start information packs issued to each contractor and should be read in conjunction with this document.

### 9.3 DELIVERIES

All deliveries must report to the site office. Deliveries shall be managed to avoid public roads being blocked. Access must at all times be available for emergency vehicles.

There will be an area off the access road for vehicles to load and unload safely. As such all offloading will need to be supervised by an appointed banks man. To maintain safety a temporary inclusion zone will need to be established when loading/off-loading.

All vehicles leaving the site will be inspected to ensure all loads are secure and debris is removed from the underside of the vehicle and tyres so far as is practical. Highways will be inspected periodically for cleanliness.

All vehicles will have wheels washed down before leaving the site and entering the public road.

#### **9.4 TRAFFIC MANAGEMENT**

A separate Traffic Management Plan has been produced as part of the ESMS and should be read in conjunction with this section.

All traffic to and from the site is to be closely managed and must follow the Traffic Management Plan (TMP). A copy of this plan is to be given to all logistic companies and anyone else who will be delivering or collecting any items involved in the construction of the site. It is paramount that all drivers comply with this plan to ensure safety of all surrounding residents, visitors and construction workers. Delivery schedules and timings will also be detrimental to this plan working proficiently.

Warning signage will be displayed on the main highway warning public road users of the access point of the site.

Deliveries will also be scheduled to avoid peak traffic times, i.e. avoiding rush hours. If possible all neighbours will be advised as to the delivery schedule or any changes to the schedule in an attempt to avoid disruption.

Staff working on the site will travel to the site via mini buses/van or standard cars. It is anticipated that the total likely to be on site at any one time during both construction and decommissioning would not exceed 5-10. Car parking will be allocated and segregated for safety. A pedestrian walkway will be established in front of the main compound to segregate pedestrians and vehicles to reduce the risks of accidents on site.

To ensure safe vehicle movements and unloading, a qualified and certified Banks man will be employed in the unloading area and site entrance, to hold other traffic back while HGVs access/egress the site.

#### **9.5 FIRE AND EMERGENCY PROVISIONS**

A separate emergency preparedness response plan will be the overriding document for dealing with health and safety emergency and should be read in conjunction with this plan. The Site HSSE Manager will be the designated as the emergency coordinator.

The Site Emergency Preparedness Response Plan will be carried by all workers whilst on site and displayed in all offices and canteens.

The site emergency procedure is as follows;

On hearing the emergency alarm (three blasts on the air horn) or discovering a fire, all workers are too; Stop work immediately.

Make sure they switch off tools and equipment.

Go immediately to the designated Muster Point (Normally Site Entrance).

DO NOT stop to pick anything up.

WALK, do not RUN!

Inform the Site Manager by whatever means

Ensure that the emergency services have been called.

At the Muster Point a roll call will be taken.

DO NOT leave the Muster Point until authorised to do so by the Fire Marshal/Supervisor.

ONLY attempt to fight the fire with the correct extinguisher if safe to do so – DO NOT put life at risk to save property.

Await further instructions.

The fire fighting facilities/equipment will be available on site can be used in case of an emergency/fire.

When contacting the Fire Service, the following information should be given:

- name and address of the premises;
- location of fire if known;
- whether anyone is injured or trapped;
- what action is being taken, e.g. evacuation; and,
- Details of main access points to premises.

All workers/visitors will be made aware of the actions to be taken on the event of hearing the ALARM. This will be briefed during the site induction.

METKA EGN will ensure that suitable fire appliance is provided on site at various locations, we will have a minimum of 3 x CO2, 3 x foam, 3 x dry powder and 3 x water extinguishers or a fully equipped fire board as the RoK Fire Safety Rules. are available at all times. Signage will be displayed to identify the assembly point, first aid point and fire points.

All contractors and personnel shall take any steps as are necessary to prevent injury to themselves or others in the event of any imminent danger. No disciplinary action will be taken in the event of any member of the project team reporting a health and safety incident or any situations of imminent danger.

METKA EGN fire wardens will assist the emergency coordinator in the undertaking of routine drills and exercises and ensure that in the event of the alarm being sounded all contractors are safely evacuated from the site to the Muster Point located within the METKA EGN compound/site entrance. In the event of an emergency, the warden will clear their area and be the last person out, if safe to do so. At the muster point the warden will report on the evacuation and any areas which were inaccessible during the evacuation, the emergency coordinator will pass this information onto the relevant emergency service.

A Fire Log will be maintained for the site to record weekly and monthly checks to fire precautions installed on site. (MEG/HSE/HSF/0006 – Folder 5).

A site Fire Risk Assessment (MEG/HSE/HSF/0018A and Fire Plan MEG/HSE/HSF/0018B – Folder 2) shall be completed and shall be periodically reviewed. This will be maintained within the METKA EGN Safety Management System.

On hearing the alarm, or when instructed by METKA EGN fire wardens, all operatives will immediately leave their work and assemble at the designated Muster Point.

The coordinator will be responsible for undertaking a role call and advise the emergency services of any persons not accounted for and any locations not adequately evacuated.

The METKA EGN Site HSSE Manager will liaise with the emergency services on their arrival and provide them with all necessary information about the incident and the suspected location of any missing persons.

All contractors must identify within their method statements any requirement to store flammable materials or LPG. Contractors will not be allowed to store LPG on site. Any LPG present on site shall be suitably stored and secured.

Emergency First Aid and A&E:

An emergency clinic/first aid point will be located in the site office with enough provisions to cater for minor medical emergencies. All other medical cases must be treated at the nearest hospital; the HSSE manager/project manager will confirm the location prior to starting work and display this in all offices and canteens.

## **9.6 STORAGE OF MATERIALS**

All deliveries will be directed to the site office in the first instance and report to the site HSSE manager. The site HSSE manager will then provide a banks man to assist the delivery in reversing and traffic/personnel control.

Materials will be delivered on site and stored within a designated storage area, which will be fenced off and stored in a safe manner.

## **9.7 STORAGE AND COLLECTION OF WASTE**

The collection of waste material will be via a skip which will be situated to the side of the main compound area. Waste will be stored in black bins and then they are being transferred to the skip. All waste will be disposed of by licensed waste carriers to licensed tips. Copies of the waste transfer notes and duty of care sheets will be held on site at all times in Folder 6. These areas will be adequately fenced to protect the workforce and visitors to site and will be positioned away from the main smoking area to prevent the risk of fire. During the construction phase METKA EGN will recycle wherever possible and will provide separate waste skips for Wood, card/paper, plastic, metal and general waste. All waste leaving site will have a waste transfer note and will be recorded in the SWMP.

## 9.8 CONTACT WITH LIVE SERVICES

The following actions need to be undertaken in the event of contact with live electrical services.

- If an injured party is in contact with live services no attempt must be made to touch the injured party.
- Do not use anything metallic to break the contact with the electrical cable / appliance. To break electrical contact with low power cable the person completing the recovery should stand on dry insulating material and use timber to break contact.
- The owner of the cable or electricity board is to be contacted immediately.
- All personnel are to be kept clear of the area until the area has been made safe and re-entry is agreed by the relevant cable owner.
- Machine operators are to remain inside the machine until the cable has been made safe.
- Personnel are to be instructed not to approach or touch the machine until the cable has been made safe.
- The accident and emergency procedures within the METKA EGN Safety Management System are to be adhered to.

Should a gas pipe be breached the following actions should be followed.

- All damage shall be reported to the relevant gas supplier regardless of the level of damage perceived.
- All personnel are to be instructed to evacuate the area and no entry is to be made into the area.
- The emergency co-ordinator is to contact the gas supplier, police and fire authority.
- No smoking, naked lights or any sources of ignition are to be permitted within the evacuated area.
- Upon arrival to site the Emergency Co-ordinator shall assist the relevant authority.
- The accident and emergency procedures within the METKA EGN Safety Management System are to be adhered to.

## 10. SITE HAZARDS AND CONTROLS

### 10.1 SLIPS TRIPS AND FALLS

Slips and trips are the single most common cause of injuries at work and also account for the majority of injuries to the public.

There are a number of factors that can contribute to slips and trips at work including not only poor housekeeping and obvious obstructions but also poor lighting and selection of footwear. Construction sites by their nature present significant risks from slips and trips, however these can be significantly reduced by implementing the following:

- Effective planning including careful site layout to reduce congested areas, provide suitable lighting and the timely removal of waste.
- Suitable site organisation such as the provision of dedicated and marked walkways and work areas that are constructed and maintained to a high standard.

- Controlling, monitoring and reviewing practices on site to ensure safe systems of work are being followed including regular recorded site inspections, and training through tool box talks.

## 10.2 MANUAL HANDLING

Due to the nature of this project and construction in general, consideration shall be given to the use of mechanical handling for all heavy, large, and bulky equipment and materials. Wherever possible, the manual handling of such items shall be managed out, with consideration being given to the provision of sufficient and appropriate lifting equipment and facilities.

The following items have been identified as posing a potential risk in terms of manual handling:

- Delivery of heavy plant and material.
- Transporting materials across sites.
- Lifting into position timbers for shuttering.
- Positioning of framework.

The handling of all such items will be subject to specific risk assessments and all site operatives will receive manual handling training as a toolbox talk at the various stages of the project.

## 10.3 LIFTING OPERATIONS

All lifting operations will be planned, supervised and undertaken only by trained and competent personnel and in accordance with Lifting Operations. The specific details of the lift are contained within the Lift Plan (MEG/HSE/HSF/0011 – Folder 4).

A crane may be required during the installation and connection phase and as yet is still to be sourced and confirmed.

The Site HSSE Manager will log the delivery of the Crane using the Crane Arrival Form (MEG/HSE/HSF/0030 – Folder 4)

All lifting appliances will be inspected and logged. (MEG/HSE/HSF/0030 – Folder 4)

## 10.4 MANAGEMENT OF PLANT AND MACHINERY

The Sub-Contractor is responsible for the maintenance of site plant and equipment. All plant on site must be recorded on plant log in Folder 4. These include:

- Plant Machinery
- Small Tools Register
- Lifting Equipment Register
- Podiums/Ladder Inspections.
- Plant daily inspection sheet.

The site HSSE manager is to ensure that all certification is issued for plant and lifting equipment and filed within the site folders as per the SMS. All Thorough Examinations Certificates are to be retained for all lifting equipment and accessories and held on file.

## 10.5 FALLS FROM HEIGHT

Falls from height is the biggest single cause of fatal accidents and major injuries at work.

A place is considered at height where a person could fall and sustain an injury and this includes work places that are at or below ground level such as excavations.

Work will only be undertaken at height when it is safe and reasonably practicable and where it cannot be undertaken other than at height. All work at height will be properly planned and supervised.

Where work is undertaken at height consideration needs to be given to the selection of work equipment and processes, the selection of protective measures such as guard rails and harnesses and conditions on site.

All equipment and work platforms used for work at height shall be inspected prior to use and at specified periods thereafter and entered onto the inspection records contained within the Scaffold Log (MEG/HSE/HSF/0008 – Folder 4)

Work at height shall be planned and co-ordinated and all those involved are to read and understand the site / task specific method statement where necessary.

## 10.6 NOISE AND VIBRATION

The Control of Noise at Work Regulations fall under the National Environmental (Noise Standards and Control) Regulations 2003 which requires employers to take more controlling steps to prevent persons exposed to work related noise, suffering "noise induced" hearing loss.

Hearing can be affected due to age induced hearing loss or noise induced hearing loss. There is nothing an employer can do about age induced hearing loss but work related noise induced hearing loss could be avoided.

The RoK noise level (acoustic impact of artificial origin) standards are defined that a maximum permissible noise levels for construction sites at residential receptors are 80 dB (A) Leq during the (06:00 to 22:00) and 50 dB(A) during night time. The proposed project will also be required to comply with the noise limits as specified by the IFC EHS General Guidelines which the strictest shown in the following table.

Receptor	One Hour LAeq (dBA)	
	Daytime: 06:00 – 22:00	Night time: 22:00 – 06:00
Residential, Institutional, Educational	55	50
Industrial, Commercial	80	80

The IFC standard for residential receptors will be applicable during the daytime (55 dBA), and the RoK standard (50 dBA) during the night time.

In accordance with national legislation for workers, noise levels shall be kept below 85 dB (A). Hearing protection devices must be provided to all workers, when necessary.

Further guidance can be found in the CEMP on control measures.

Noise assessments shall be undertaken throughout the works and the completed assessments held within the CPP H&S folders. The correct use of hearing protection at various distances from machines will be briefed to all during the site induction. The Site HSSE Manager will ensure that works are handled as far as possible by machine. Where the use of a hand operated vibrating tools is unavoidable, and then workers will be reminded of trigger times and job rotation to avoid any injury to users. Those workers that will be operating vibrating tool will be made aware of their exposure rates.

## **10.7 EXCAVATIONS**

Any activities that involve breaking ground are conducted in accordance with HSG47 all works require that a Cable Avoidance Tool (CAT) is used to scan the area before breaking ground. NOTE: The permit requires the serial number and calibration date of the CAT used! (MEG/HSE/HSF/0042).

All edges of excavations should be protected with substantial barriers where people are liable to fall into them. This can be achieved by bunding or fencing off the excavation.

Plant and vehicles are not to traverse close to the sides of excavations. The extra loadings can make the sides of excavations more likely to collapse. Any movements by plant close to excavations will only be completed with the assistance of a competent banks man.

A competent person who fully understands the dangers and necessary precautions should inspect the excavation at the start of each shift. Excavations should also be inspected after any event that may have affected their strength or stability, or after a fall of earth. A record of the inspections will be required and any faults that are found should be corrected immediately.

Any temporary works, excavations or foamworks are carried in accordance with best practice. For excavations deeper than 1.2 mtrs then adequate steps to reduce the risk of collapse must be taken, these include shoring, battering. Additionally, even if excavation are not 1.2mtrs deep all contractors must take into account ground conditions and weather conditions as these could affect stability. All excavations will be inspected daily prior to workers entering and wherever possible closed at the end of each day.

All excavations will be under a PTW.

## **10.8 CONFINED SPACES**

A confined space is any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions.

A number of dangers can arise in confined spaces including a lack of oxygen, poisonous gases and sudden ingress of water.

Areas on the site may produce gas and therefore entry into deep excavations should be avoided and in no case undertaken without a suitable and sufficient risk assessment taking into consideration any conditions that may be considered as confined spaces.

Entry into confined spaces requires specialist training including the working knowledge of gas detectors and emergency and rescue arrangements and therefore will only be undertaken by trained and competent personnel and following the formation of a suitable plan of work.

Entry into confined spaces shall be strictly controlled using the permit to work system contained within the METKA EGN Safety Management System.

## **10.9 COSHH**

The site HSSE Manager will ensure that before work starts, information is obtained on any material, substance or process to be used or likely to be encountered which could be a hazard to the health of operatives. COSHH assessments within the CPP H&S folders will be briefed to site personnel as appropriate prior to commencement of works. Where contaminated land is discovered, work shall cease until a suitable procedure has been put in place to deal with the contamination.

Any Contractor bringing onto site any hazardous substance must notify the Site HSSE Manager and be in possession of a suitable COSHH assessment and manufacturers safety data sheet. All those workers involved in the use of such materials will be qualified and trained in their use and use the correct PPE.

Any hazardous materials or substances that is necessary as part of the build will be stored and maintained in a controlled manner. These materials or substances will be stored in locked storage containers and access to these containers will be by key only, this key will require a signatory to sign for the key from the site office.

All substances are to be stored as detailed by manufacturers' health and safety data sheets and all containers must be clearly labelled.

## **10.10 ASBESTOS**

There is no evidence of any existing asbestos materials on site; however, should any be discovered then METKA EGN will consult with qualified, competent person to deal with and remove safely in accordance with (IAW) HSE guidelines. The client will be informed prior to asbestos works being carried out.

Should any suspect materials be discovered then works should stop immediately and the site manager informed.

## **10.11 ADVERSE WEATHER CONDITIONS**

METKA EGN will ensure that suitable and sufficient steps will be taken to ensure, so far as reasonably practicable, that during working hours workers are closely monitored for signs of heat related problems.

There will be sufficient drinking water for all workers on site and available at all times. Sun and barrier creams will be available and supervisors must ensure that all workers are informed when relevant use these.

No shorts are permitted on site and clothing must conform to the PPE section of this plan, arms and legs must be covered during periods of extreme sunshine and heat to prevent sunburn. All equipment and PPE applicable to the weather conditions at the time of task must be worn and utilised by all workers on site.

During extreme hot conditions then METKA EGN will ensure that work times are monitored and that workers are given ample time to rest and recover. Suitable areas or cabins will be made available for workers to shelter from the sun or heavy rain. All cabins will be fitted with heaters for periods of cold temperature, plus a drying room will be available on site for workers to dry out their clothing.

If anyone on site has concerns as to the welfare of another person, then this must be brought to the attention of their supervisor immediately. The earliest stage that HEAT or COLD injuries are recognized then the faster the recovery.

Frost biting is considered to be a high level of risk and requires to be controlled at all times during extreme cold weather conditions.

## **10.12 ELECTRICAL CONNECTIONS, TESTING & COMMISSIONING**

All electrical works will be undertaken by qualified electricians, every electrician must provide evidence of their qualifications. Notices are displayed on what to do in the unlikely case someone gets an electric shock.

Any tools or equipment being used on site that is to be powered via a generator must be stepped down to 110V by the use of a transformer normally yellow in colour. All electrical equipment used outdoors or in damp conditions should be protected by a residual current circuit breaker.

Once the site is energised all electrical works and areas being worked on are isolated under a PTW. The system will be locked out and tagged and circuit breakers removed. Caution boards will remain in place up until all the necessary work is completed.

Suitable doors must be fitted to all switch room entrances, they must have heavy duty locks or padlocks, and these are under strict key control. Further control measures will be:

- (a) Locks for isolators and circuit breakers to maintain safe working conditions. Sufficient earth straps / clamps and cables to allow the safe isolation of the PV PLANT circuits.
- (b) Provision of laminated electric schematic to assist with isolation and switching to be mounted in an appropriate place in each inverter station, switchgear cabin and in the control building, covering the operation of all electrical components
- (c) Provision of suitably rated safety mats and shepherd's crooks for each electrical panel in PV PLANT substation and each inverter station switchgear cabin.

METKA-EGN ensures that all non-qualified personnel are kept away from electrical installations by ensuring all buildings are securely locked and only qualified and authorised personnel are permitted to sign for the keys, a permit to work is in place and signed, RAMS are read understood and signed. The transformers are fenced off with appropriate signage attached to the fence and access points (gates) are securely padlocked and only authorised and qualified personnel may sign for the keys to gain access.

All testing and commissioning carried out by authorised person having the knowledge, skills, experience and training.

## 11. WASTE AND ENVIRONMENTAL CONSIDERATION

11.1

A separate plan has been produced to cover this section within the project documentation, Construction Environmental Management Plan (CEMP) and should therefore be read in conjunction with this section.

11.2

All works on site will be undertaken in accordance with the RoK legislation, Approved codes of Practice and Guidance documents.

11.3

A Site Waste and Environmental Management Plan has been undertaken for the site and contained within the site filing system (Folder 6).

11.4

During construction phase METKA EGN will recycle wherever possible and will provide separate waste skips for Wood, card/paper, plastic, metal and general waste. All waste leaving site will have a waste transfer note and will be recorded in the SWMP.

11.5

Should we have any spillage or discover any contaminated land then the HSSE Manager is to fully the CEMP.

11.6

All re-usable items shall be repackaged into containers and taken to the local market areas where they can be sold; waste should be packaged into two types, one of hazardous materials and the other as non-hazardous.

11.7

Hazardous waste will be disposed of in accordance with environmental guidelines while non-hazardous waste like metals, plastic and wood can be recycled.

11.8

Spills kits will be available on site and located next to all sources of fuels/oils and wherever possible these will be sited on suitable ground to contain and spill and drip trays as a minimum will be available.

11.9

Ground contamination pollution control measures will be put in to place to avoid impacts in accordance with requirements of IFC PS3. Fuel and other potential pollutants will be stored in double banded containers and all re-fuelling activities will only take place in designated areas. Pollution spill kits will be available at all fuel stores and re-fuelling areas and any spills will be reported to the site manager immediately and clean up completed.

## 12. SECURITY ARRANGMENTS

12.1

Site security is an extremely important issue and will be provided 24/7. Emergency 24 hour contact numbers are to be clearly displayed at the site entrances. There will be a security company providing security to prevent unauthorised access. Site security will be responsible for the booking in and out of all personnel who enter the site; all personnel with no exception are to ensure that they have booked in or out of the site for each and every visit.

12.2

Due to the size of the site and lack of visibility the security manning will be reinforced by wheeled patrol service to maintain the security of the site.

- 12.3 Regular checks will be made to the fencing around the site boundary and all work equipment will be securely stored on site and the entrance gates locked out of working hours.
- 12.4 The site needs to be fenced off to stop any unauthorised access to the site at any time. A permanent fence will be installed prior to the main construction activities.
- 12.5 Out of working hours a security guard will be employed to provide security. The guard will be provided with a sufficient welfare cabin where they will be provided with a toilet and canteen area with provisions for hot water and means of heating food. The Night guards working hours are 1900 – 0700hrs.

### 13. COMPLAINTS AND EXTERNAL LIAISON

- 13.1 Complaints/Compliments or external liaison formally received from customers, clients, public or the representatives of third parties will be actioned initially by the appointed community liaison officer and investigated by the Project Manager. All complaints/compliments shall be entered into the site diary. Liaison with any external party must be done by or with the knowledge of the project manager and or the site HSSE Manager. These in turn will then be passed onto the client.
- 13.2 As works could affect neighbouring properties METKA EGN shall ensure that a pre-work notification system is employed and that they liaise closely with neighbouring sites both private and public to ensure they build a rapport.
- 13.3 The principal contractor should also work with the client to ensure there is cooperation with others outside the construction site who may be affected by the activities on-site. This includes co-ordinating the activities of contractors on the principal contractor's site with contractors on any neighbouring sites, particularly where the activities on each site combine to create hazards outside the sites that need to be addressed jointly.

### 14. HEALTH AND SAFETY FILE

- 14.1 The Principal Contractor shall be responsible for the collation of all information required for the health and safety file. This shall then be passed to the Principal Designer for the project.
- 14.2 Each contractor shall provide the Principal Contractor with all relevant information required for the file within two weeks of completing site works.
- 14.3 Information for inclusion into the Health and Safety File will be compiled by METKA EGN and passed to the Principal Designer.
- 14.4 The Health and Safety File shall be compiled in accordance with the METKA EGN pre-start information document.
- 14.5 Such information shall include but not be limited to:
- As built drawings;
  - Installation or commissioning certificates;

- Guarantees or Warranties;
- Operations and maintenance manuals; and
- Specifications of construction materials.