

Minimum health and safety requirements for contractors

Version 1.0

July 2021



UNOPS Minimum Health and Safety Requirements for Contractors

This document describes the minimum occupational health and safety arrangements and performance expected from UNOPS contractors

Version 1.0 - 2021

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This version of the UNOPS Health and Safety requirements has been adopted for use in:
[insert project name].

Sections in the Master Health and Safety Requirements that are not applicable have been deleted and special requirements needed have been added.

Adapting the Master Health and Safety requirements document has been done by:
[*Insert name*] on [*Insert completion date*].

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1. DEFINITIONS

Baseline risk assessment	Baseline risk assessment is the assessment that identifies and documents all potential hazards, undesirable events, causes, consequences and inherent risk levels within a geographical area. It is carried out at the beginning before any work activities begin. Additional risk assessments should be carried out at key stages to address risks in greater detail and to make adjustments to the context and to changes that will have occurred.
Confined spaces	A workplace that has restrictions to movement (access and egress; and working space) and exposure to harmful substances (air with low levels of oxygen, or presence of harmful gases or substances).
Construction Manager	A competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site.
Construction Supervisor	A competent person responsible for supervising construction activities on a construction site.
Construction work	Any work in connection with the construction, erection, alteration, retrofitting, renovation, repair, demolition or dismantling of physical infrastructure.
Contract	The Instrument of Agreement, which includes the General and Particular Conditions, the Schedules and further documents (if any).
Contractor	The entity referred to as the "Contractor" in the Contract signed between UNOPS and a service provider.
Contractor's Equipment	All apparatus, machinery, vehicles and other items required for the execution and completion of the Works and the remedying of any defects, excluding the Temporary Works, Employer's Equipment (if any), plant, materials and any other items intended to form or forming part of the Permanent Works.
Contractor's Personnel	The Contractor's Representative and all personnel that the Contractor utilizes on the Site, which may include the staff, labour, agents and other employees of the Contractor and of each Subcontractor, and any other personnel assisting the Contractor in the execution of the Works.
Employee	Refers to someone engaged by an organization, regardless of their contract modality.
Fatal incident	A work-related injury or illness that results in death. This includes deaths of non-UNOPS people resulting from UNOPS activities.
Health and Safety Plan	A site, activity, work package or project-specific documented plan in accordance with UNOPS health and safety requirements.

Hot work	Any process that can be a source of ignition when flammable material is present or can be a fire hazard regardless of the presence of flammable material in the workplace (e.g., welding, soldering, cutting and brazing).
Working at height	Carrying out an activity in a position where the person can fall to a lower level. The position may be above or below the ground. It includes being on work platforms, ladders or near edges.
Incident	Undesired event which resulted in or had the potential to result in death, injury, property/equipment damage or environmental or social impacts.
Inclement weather	Any weather event that has the potential to negatively impact health and safety, e.g., wind of speed greater than 30 km/h (20mph), electric storms within a 10 km radius, or rainfall in excess of 40 mm/h.
Lost time injury or illness	A work related injury or illness that results in a person not being able to perform his/her duties for at least seven (7) consecutive days, including days not normally worked such as weekends.
Health and Safety Practitioner (Advisor, Specialist or Analyst)	A competent person appointed to be responsible for assisting the Construction Manager to address the health and safety aspects on the construction Site.
Portable equipment	Equipment that is not fixed at a particular workstation but may easily be moved from one (1) location to the next. Grinders, drills and welding machines are examples of portable electrical equipment. Auxiliary equipment, such as extension leads, plugs and sockets, used with portable tools is also classified as portable equipment.
Personal Protective Equipment (PPE)	Clothing or equipment used by individuals to protect themselves from hazards in the workplace. Examples include work suits, hard hats, full body harnesses and face shields.
Site	The places where the Temporary Works and Permanent Works are to be executed, to which plant and materials are to be delivered as shown on the Schedule of Site Plan, and any other places as may be specified in the Contract as forming part of the Site.
Site conditions	Any conditions in relation to the Site including: <ul style="list-style-type: none"> a. the form and nature of the Site, including ground surface conditions, sub-surface geology and conditions, and all other physical conditions and characteristics on, above, or below the surface which may affect the performance by the Contractor of its obligations under this Contract; b. the general and local conditions for environment, meteorological, seismic activity, hydrological, hydrographic, climatic conditions, ocean and sub-sea conditions;

	<ul style="list-style-type: none"> c. the extent and nature of the work and goods necessary for the execution and completion of the Works and the remedying of any defects; d. the laws, procedures and labour practices of the country; and e. the availability and quality of both permanent and temporary access, accommodation, facilities, personnel, labour, power, transport, water, waste disposal, storage or materials and all other services and utilities, necessary for the performance of the Works in accordance with the Contract.
Subcontractor	Any person named in the Contract as a subcontractor, or any person appointed as a subcontractor or supplier of materials or plant, including any Nominated Subcontractor or Permitted Subcontractor, for a part of the Works, and the legal successors in title to each of these persons.
Technical Coordinator	For the purposes of these requirements, the Technical Coordinator is the UNOPS personnel that leads teams in delivering work packages and reports to the Project Manager. The technical coordinator role is usually assigned to the UNOPS Site Supervisors, Site Engineer or Construction Manager.
Works	The Permanent Works and the Temporary Works, or either of them as appropriate, and all other tasks which the Contractor shall do to fulfil its obligations under the Contract.
Works information/ Scope of work	The works or services to be performed or provided by the Contractor or service provider.

2. INTENDED PURPOSE AND HOW TO USE THIS DOCUMENT

- 2.1. The purpose of these requirements is to establish the minimum occupational health and safety (HS) performance level that applies to UNOPS work and UNOPS workplaces. It applies to activities performed by UNOPS contractors and subcontractors. Those bidding for UNOPS work must consider these requirements when pricing their work and consequently ensure that their HS system meets or operates above these requirements if they are contracted to carry out work on behalf of UNOPS.
- 2.2. Contractors are required to ensure that their project personnel and Subcontractors are made aware of and fully comply with these UNOPS HS requirements, and/or country-specific legal requirements (the most stringent will apply in all cases).
- 2.3. This document is adapted for each specific procurement process because there may be some sections that do not apply to the specific work that a contractor is bidding for or some specialized requirements that are unique to the work to be performed may be missing. Therefore it is important to ensure that prospective contractors are using the document that has been adapted for the project and provided as part of the procurement documents.

3. GENERAL PRINCIPLES

- 3.1. The HS requirements describe the minimum requirements that must be in place to comply with the UNOPS HS policy.
- 3.2. UNOPS shall prepare an HS Plan for the project. Potential contractors shall include an HS Plan in their bid or proposal to address the HS requirements for the work they would be proposing to undertake for UNOPS. After the Contract is issued, the Contractor shall ensure that their Plan is updated to include the specific conditions at Site, the equipment to be brought to Site, and the competencies of the workforce they hired for the Works. The Plan shall also be aligned to the overall project HS Plan prepared by UNOPS and shall be submitted to UNOPS for approval within 21 days of the Commencement Date. See [Section 7](#) for more details about the Contractor's HS Plan.
- 3.3. Breaches of HS shall be addressed in line with the Terms and Conditions of the Legal Contract between UNOPS and the Service Provider.
- 3.4. The Contractor and Subcontractors shall ensure that all rules, instructions and signage pertaining to the work is communicated in a language(s) understood by the workforce.
- 3.5. The Contractor is responsible for making sure that all of its Subcontractors adhere to UNOPS requirements.

4. UNOPS GOLDEN RULES

- 4.1. UNOPS has identified 10 Golden Rules (to address critical risk and safeguard lives) for employees, contractors and visitors. The rules require attention by management over and above these HS Requirements. In the spirit of UNOPS Goal Zero commitment, these rules have to be strictly applied and monitored.

These rules are summarized below:

Rule	Description
1	<p>Competence</p> <p>No one should carry out any work unless they are competent (licensed, qualified, experienced and have had job-specific training to do so), have adequate resources for the job and they are authorized to do the job.</p> <p>Every individual at UNOPS workplaces should be alert to hazards and immediately address unsafe acts and conditions.</p> <p>Emergency plans, equipment and arrangements must be in place and every individual must know what to do in an emergency.</p>

2	Working at heights Always have adequate fall protection (safe access, safe platform, protected edges, fall restraint and fall arrest) when working at heights.
3	Electricity No one should install, repair or tamper with electrical equipment unless they are competent (licensed, qualified, experienced and have had job-specific training to do so), have adequate resources for the job and they are authorized to do the job.
4	Energy sources Ensure that all energy sources have been isolated and locked off, and that stored energy has been released/secured before undertaking a task. For example, switching off and locking-out to prevent accidental start-ups and accidental exposure to energy sources such as uninsulated live electrical conductors.
5	Traffic rules All personnel should follow road and site traffic rules. Non-authorized employees, the general public and pedestrians should be separated by physical barriers from mobile plant equipment and vehicles.
6	Lifting operations Ensure that all lifting operations are planned, supervised and undertaken by competent personnel using certified equipment that has the capacity for the lifts being undertaken. Never allow anyone to be in the path or drop zone of a suspended load.
7	Excavations Excavations should be visibly identified and protected from collapse; they must have appropriate means of access and egress, and barricades to prevent falls into them.
8	Hazardous substances All personnel must know how to handle, store and dispose of any chemicals or hazardous substances they use in their work activities.
9	Confined spaces No one should be allowed to enter a confined space unless they are properly trained, have all of the required safety and rescue equipment and understand the safe system of work for the specific activity and confined space.
10	Liquid accumulations Any person working in or around water/liquid accumulations or storage facilities should wear a buoyancy vest and never work alone.

Note that there may be a specific rule or set of instructions to address special hazard conditions such as the Coronavirus pandemic. When required, these rules or instructions shall be communicated in writing to the Contractor by the UNOPS Project Manager.

5. PROJECT-SPECIFIC REQUIREMENTS

- 5.1. UNOPS reserves the right to add or remove specific criteria outlined in this document in line with requirements from risk assessments, incident investigations and inspections conducted.
- 5.2. The Contractor shall be responsible for HS from the Commencement Date to the time the Taking Over Certificate is issued. In addition, the Contractor shall also be responsible for HS during the rectification of defects during the Defects Notification Period.
- 5.3. The UNOPS Representative reserves the right to stop the Works, or any parts thereof, due to any unsafe act and or condition until such time the identified non-compliances have been sufficiently addressed. Such stoppages are at the Contractor's expense.
- 5.4. The Contractor shall ensure that sufficient emergency response/first aid arrangements are available at the Site for the duration of the project.
- 5.5. The Contractor shall as far as reasonably possible put in place a Fire Prevention Plan to manage the risk of fires resulting from any activities under the control of the Contractor and/or his employees. The Fire Prevention Plan shall include storage and disposal of flammable and/or harmful/hazardous substances (fuel/paint/combustible waste material etc.).
- 5.6. Before commencing the work, the Contractor submits equipment maintenance records, including calibration and certification records where applicable, to the UNOPS Technical Coordinator for inspection and acceptance. The Contractor is also required to provide a maintenance plan for equipment. All of these records should be kept up-to-date for the duration of the Contract.
- 5.7. The Contractor shall ensure that their work activities comply with all relevant national legislation and codes.

6. ROLES AND RESPONSIBILITIES OF CONTRACTORS

6.1 Contractor's Representative/Contractor Managing Director (or equivalent)

- 6.1.1. The Contractor's Representative shall ensure that:

All Contractor and Subcontractor workers under his/her direct control comply fully with these HS requirements, all relevant HS legislation, and any specific HS requirements that apply to the service or work that the Contractor is carrying out on behalf of UNOPS.

6.2 Occupational Health and Safety Officer(s)

- 6.2.1. The Contractor shall appoint Occupational Health and Safety Officers (OHSO) in sufficient numbers to ensure the effective implementation of HS. As a minimum, the number shall not

be less than the number indicated by the UNOPS project team in the procurement solicitation documents and the Contract.

6.2.2. The Contractor's OHSO shall (as a minimum):

- Conduct Site inductions for employees, temporary workers, Subcontractors and visitors
- Conduct training and awareness on procedures
- Facilitate risk assessments for routine/non-routine tasks
- Contribute to the preparation of method statements
- Facilitate incident investigation and reporting
- Plan and execute emergency drills and disseminate lessons learned
- Conduct inspections on Site using a format that is acceptable to the UNOPS Project Manager
- Ensure that all deviations found during inspections and corrective and preventative actions from incidents shall be documented and rectified on or before the due date set
- Maintain a sex-disaggregated register of employees, temporary workers and Subcontractors issued with PPE
- Verify the adequacy and safety of all work proposed, tools and equipment
- Contribute to the designing of Temporary Works
- Work closely with local health and safety authorities
- Comply with audit procedures and relevant legislation
- Organize and conduct periodic health and safety campaigns and HS champions recognition events
- Arrange regular HS meetings

It should be noted that these duties are not meant to be exclusively performed by the OHSO but may be shared by supervisors and others.

6.3 Supervisor(s)

The level of supervision affects HS performance therefore adequate, competent supervision should be provided at all workplaces with particular emphasis on safety-critical tasks.

- 6.3.1. In determining the number of appointed competent supervisors, the nature and scope of work being performed shall be taken into consideration. The number of supervisors has to be adequate to ensure that no worksites are left unsupervised. As a general guide, there should be at least one (1) supervisor for every worksite up to a maximum of 20 employees and one (1) supervisor for every 20 employees over this. More supervisors are required when there is increased risk, when workstations are far from each other and when national legislation stipulates a higher level of supervision.

- 6.3.2. Supervisors must ensure that adequate numbers of competent workers are assigned to each task.
- 6.3.3. Supervisors must ensure that tools and equipment are fit for purpose and safe to use.
- 6.3.4. Supervisors must ensure that the hazards in the workplace have been identified and effective controls are in place to address the hazards.
- 6.3.5. Supervisors must ensure that safety-critical tasks are directly supervised from the time they start until they are completed.

6.4 Management of Subcontractors

The Contractor must plan for and ensure that there are adequate resources and controls for adequately supervising the Subcontractors that they engage. This includes, but is not limited to assessing that:

- The Subcontractor's personnel have adequate HS competence
- The Subcontractor has tools and equipment that are safe to use
- The Subcontractor meets all legal requirements under national law
- The Subcontractor has received adequate training to ensure that the UNOPS HS requirements are met
- Arrangements are in place to adequately supervise the work of the Subcontractor to ensure that the Subcontractor works safely at all times

7. HEALTH AND SAFETY PLAN REQUIREMENTS

7.1. The following are minimum requirements for the compilation of the Contractor's HS Plan:

- 7.1.1. The Contractor shall prepare an HS Plan that addresses key risks in the work that the Contractor is contracted to do. The Plan shall be updated and aligned to the UNOPS Project HS Plan (or facilities plan if the work is for a facility) before the work starts. The Contractor HS Plan shall include the following:
 - A baseline risk assessment of key stages or key activities in the work assigned to the Contractor. The baseline risk assessment must address all HS risks including fatal risks covered by the UNOPS Golden Rules (see [Section 4](#)) and occupational health stressors such as the presence of disease-causing chemicals, microorganisms, and psychosocial conditions such as stress that affect mental health (including addressing the higher risk to women in some situations)
 - Safe work procedures or method statements for safety-critical/high-risk activities
 - HS legal requirements that are relevant to the work
 - Key objectives and targets to address risks (identified in the risk assessment) and meet UNOPS requirements described in these requirements

- Details of emergency arrangements that include details of the provision and maintenance of emergency access ways, firefighting equipment, first aid equipment, evacuation plans, rescue equipment, emergency drills, emergency contact details and signage
 - The arrangements that shall be put in place to ensure that high-risk activities are directly supervised
 - The programme that shall be followed for the inspection of all workplaces, machinery, tools and equipment, and observations of critical tasks are carried out
 - Critical controls for applicable fatal risks. These controls may include, but are not limited to, permit to work systems (for confined spaces, excavations, hot works and working at heights), medical fitness checks for safety-critical roles, competence checks (licencing, relevant on-the-job training) for safety-critical roles, planned maintenance, calibration, certification and pre-use checks for safety-critical equipment
 - Arrangements to ensure that all incidents are reported and investigated
 - Arrangements to ensure that corrective and preventative actions for risks and issues that arise from inspections and incidents are carried out effectively within the time set
 - A training and awareness programme that identifies the relevant personnel to be trained, the type of training that shall be provided, and other training and capacity development initiatives to address key HS risks identified and to instil a safe working culture
- 7.1.2. During the procurement for works process, bidders shall submit a proposed HS Plan that includes (but is not limited to) the aspects highlighted in Section 7.1.1. The plan shall be used to assess whether a bidder meets the UNOPS HS requirements.
- 7.1.3. Within 21 days of the Commencement Date, the Contractor should update the HS Plan and submit it for approval to UNOPS. The HS Plan shall include hazards from Site mobilization, Site establishment and the management of work packages. The updates should consider the specific Site conditions, equipment to be brought to Site, the capacity of the workforce available and other factors that have a bearing on hazards at the Site and the risk they pose.
- 7.1.4. The Contractor should also align its HS Plan with the overall UNOPS HS Plan for the project before seeking to get the plan approved.
- 7.1.5. The Contractor's HS Plan shall include all aspects covered by the Contractor's Subcontractors. It is the Contractor's responsibility to ensure that its Subcontractors are accounted for in HS planning, implementation, performance monitoring and reporting to UNOPS.
- 7.1.6. Where an HS Plan is required under the national legislation, Contractors must ensure that the Plan they develop covers both national and UNOPS requirements to avoid having to write a second plan.

8. CONSTRUCTION SITE ESTABLISHMENT

8.1 Site establishment

- 8.1.1. Before mobilizing to the construction Site, the Contractor shall provide a Site Establishment Plan to the UNOPS Project Manager for approval. The plan will, as a minimum, include the following:
- a. Office and Site layout (Site office, construction camp, the position of fixed equipment such as tower cranes, maintenance and testing facilities; walking, working, smoking and eating areas; and adequate ablution facilities for men and women)
 - b. Access control and traffic management (a detailed traffic management plan shall be required for construction that affects the normal movement of vehicles on public roads)
 - c. Drinking water points
 - d. Waste disposal points
 - e. Spill kit stations
 - f. Firefighting equipment
 - g. Emergency rescue equipment and response contact details
 - h. First aid facilities
 - i. Vehicle parking areas
 - j. Emergency assembly/gathering points
 - k. Storage facilities and workshops
 - l. Construction employee accommodation facilities (where applicable)
 - m. Protection of existing structures, materials and items
 - n. Lighting and main electrical distribution board (provision of artificial lighting where natural lighting is inadequate, and emergency lighting at escape routes)
 - o. Specific arrangements to address HS hazards that exist in the location where the work is carried out, e.g., arrangements to ensure that employees are not exposed to radioactive materials or infectious diseases such as Ebola or Coronavirus
- 8.1.2. All areas that the Contractor and its Subcontractors control and use for delivering a UNOPS project shall be securely fenced off and identified with the appropriate signage to prevent access by members of the public. This includes construction sites, construction camps and associated sites such as borrow pits, surface water catchment areas (hafirs) and materials storage areas. The Contractor shall be responsible for all security arrangements for these locations.
- 8.1.3. In planning the location of Site facilities such as offices, accommodation and welfare facilities, the Contractor shall ensure that their location will not lead to exposure to hazards from the surrounding area and/or create nuisance/inconvenience to the public. Where such exposure cannot be avoided, the Contractor shall take relevant steps to address them, e.g., installing soundproofing to address high levels of noise and air filters to address air contamination.

- 8.1.4. The Site offices, storage facilities, sheds and other facilities shall be constructed to the appropriate technical specification and workmanship approved by UNOPS and shall be maintained in a neat and tidy condition at all times. The construction Site shall conform to applicable legislation and shall be approved accordingly.
- 8.1.5. UNOPS Project Manager and Technical Coordinator shall conduct a formal joint Site establishment inspection with the Contractor. A report detailing the findings will be submitted to the Contractor who must ensure that deviations from these UNOPS HS requirements are corrected within an agreed time frame.

8.2 Signage

8.2.1. Signage at Site establishment and construction areas

- a. All signage descriptions shall be made in two (2) languages as appropriate: A national or international language that non-local visitors are likely to understand (e.g., English, French or Spanish) and a local language. Signs must contain as much visual as possible to make it easier for people with low literacy to understand the messages.
- b. All signage must be maintained and kept in a neat condition. Over-cluttering of signage is prohibited.
- c. The notice board(s) indicating the minimum PPE requirements shall be displayed at the places where PPE restrictions apply (e.g., entrances to workshops, construction areas etc.).
- d. Signs shall be in place to identify physical barricades. The signs should be visible from all sections or sides from which people may approach the barricades.

8.2.2. Signage for identifying the project Site including Contractor controlled areas

- a. A project site shall be identified with a signboard to identify the project Site. Contractor work areas, camps and any other locations that are being used to exclusively support the UNOPS project shall also be identified with a signboard.
- b. When deciding on type of boards to use, consider the following:
 - 1) Weatherproof material
 - 2) Strong, durable material (e.g., metal, hard plastic)
 - 3) Appropriate size (possible size of boards could be 1 metre high by 0.5 metre wide)

8.3 Site coordination

The Contractor shall put in place adequate arrangements for coordination between its workers and those of other contractors that are working in the same area to avoid interactions that may lead to injuries or illnesses. For example, Site communication and planning should ensure that one (1) contractor's workers are not working in the line of fire (e.g., under the load of a crane during the

crane lifting operation of another contractor), or ensure that the way shared welfare facilities are used by the contractor workers do not expose the other contractor's workers to disease-causing biological agents.

9. PERMIT TO WORK

9.1. The Contractor (including Subcontractors) shall comply with the UNOPS Permit to Work (PTW) system addressing critical risk controls. As a minimum, work that requires a PTW shall include confined space work, hot work, excavation¹, lifting and working at heights. Examples of UNOPS PTW forms and guidelines are listed below:

- Confined Space Permit (HS08)
- Hot Works Permit (HS09)
- Excavation Permit (HS10)
- Lifting Permit (HS11)
- Working at Heights Permit (HS12)
- Energized Works Permit (HS17)

9.2. The Contractor shall ensure that all Contractor Personnel, including supervisors, who will be doing work that is covered by the PTW, have received awareness training on the hazards and key controls of the work. No one should start work that is regulated by a permit before receiving this training. The Contractor must retain training records signed by the personnel.

9.3. Additional activities that may require a PTW/issue-based risk assessment sign off by the UNOPS Project Technical Coordinator within a construction area include:

- Demolition work
- Blasting
- Working near water bodies
- Work being done within close proximity of an overhead power line
- Electrical switching or energizing work
- Places with a high likelihood of coming into contact with Explosive Remnants of War (ERWs).
Review the General Conditions of Contract in the Contract for Works to see the other requirements stipulated by UNOPS regarding ERWs

10. EQUIPMENT REQUIREMENTS (GENERAL)

10.1 General requirements

¹ The permit to work for excavations should mitigate the possibility of collapse of the walls of the excavation and the possibility of interacting with underground lines carrying gas, fuel, water, sewage and electricity.

- 10.1.1. The Contractor shall ensure that tools and equipment are identified, registered, inspected and declared safe by a competent person. This applies to all tools and equipment including but not limited to hand tools, portable electrical equipment, pneumatic tools, fixed plant equipment and mobile plant equipment (such as front end loaders, trucks, graders, bulldozers and cranes).
- 10.1.2. The UNOPS Project Technical Coordinator shall not allow the Contractor to bring tools or equipment to the Site that are substandard or that pose a threat to the health and safety of persons. Tools and equipment include fixed machines, portable equipment and hand tools. Homemade tools and equipment (such as makeshift ladders and hammers and homemade modifications to machines) are strictly not allowed. The Contractor is expected to include the cost for standard tools and equipment in their bid and to provide them throughout the duration of the Works.
- 10.1.3. The Contractor must ensure that all portable electrical equipment is subjected to portable appliance electrical safety testing by a competent electrician.
- 10.1.4. The Contractor shall immediately stop any activity being carried out using substandard tools and equipment and immediately advise the UNOPS Technical Coordinator.
- 10.1.5. The Contractor shall ensure that no modifications/bypassing of portable equipment safety devices is done, e.g., the "dead man switch" is not disabled to make a grinder run continuously. Supervisors shall check and verify that safety features/devices are in place and functioning properly.
- 10.1.6. When used, all generators must have an oil spill/drip tray. Disposal of oil-contaminated waste and oil residues must be done in an environmentally friendly manner whilst also reducing the fire risk.
- 10.1.7. The Contractor must also apply precautions to prevent fire risk and environmental contamination at the storage area for the generator fuel.
- 10.1.8. All generators to be maintained and operated in accordance with the manufacturer's instructions.
- 10.1.9. Generators must not be run in enclosed spaces where there is no provision for preventing the exposure of personnel to fumes.
- 10.1.10. Electrical work and inspection of electrical installations must be performed by a competent electrician. The electricians must ensure that electrical safety features such as earthing, fuses and residual-current circuit breakers are in place to limit the exposure of people to electricity.

11. EQUIPMENT REQUIREMENTS (MOBILE MACHINERY/EQUIPMENT)

11.1 General requirements

- 11.1.1. The Contractor shall carry out planned inspections and maintenance of mobile equipment to ensure that the equipment is safe for use in line with the manufacturer's specifications or instructions. The UNOPS Technical Coordinator shall sign off to accept the use of the mobile equipment for UNOPS work after checking to ensure that the equipment is safe for use.
- 11.1.2. The equipment shall be adjustable to fit the physical stature of the operator.
- 11.1.3. Only personnel who have training and licences for the specific item of mobile equipment required by national law shall be allowed to operate the equipment. The UNOPS Technical Coordinator may accept equivalent international licensing. The Contractor shall ensure that copies of the records of training and licensing are readily available for inspection by UNOPS.
- 11.1.4. The Contractor shall be responsible for planning and segregating vehicular traffic, machine operation and pedestrian areas. The planning should include controlling vehicle traffic through the use of one-way traffic routes, light signals, on-site trained flag-people wearing high-visibility vests to direct traffic and/or other means of controlling movement at the Site. The Traffic Management Plan shall be approved by the UNOPS Project Manager.
- 11.1.5. The Contractor, in consultation with UNOPS, shall ensure that permission is granted by the local or national authority before any traffic management changes that affect the movement of traffic on public roads are implemented.
- 11.1.6. The Contractor shall ensure that the use of mobile equipment is risk assessed and the key hazards and their controls are communicated to employees affected.
- 11.1.7. The induction at the Site must include measures to prevent pedestrians from coming into contact with moving plant and vehicles, and detail how segregation is maintained.

11.2 Site requirements

- 11.2.1. The Contractor shall ensure that only competent, licensed and authorized workers operate equipment at all times.
- 11.2.2. Seat belts shall be worn on forklifts, earthmoving machinery or any other construction machinery with permanent seating arrangements.
- 11.2.3. Drivers shall be responsible for the safe transportation of all loads. This includes the proper securing of all loads through the correct methods with the use of correct securing devices. Loads protruding from vehicles shall be made visible (e.g., by the use of red flags in the day and flashing lights at night). The specific method of making protruding loads visible should be aligned to the national law.

- 11.2.4. All Site mobile machinery shall be safe for use with functional brakes, lights, mirrors, good condition tyres/tracks, horn, safe access ladder (for raised operator cabins), fire extinguishers and any other additional aspects that may be determined by the UNOPS Technical Coordinator.
- 11.2.5. All construction vehicles shall be fitted with a working orange rotating or flashing beacon and shall have audible back-up/reverse alarms.
- 11.2.6. A buggy whip/flag pole (for light motor vehicles) may be requested on construction sites and will be prescribed by the UNOPS Technical Coordinator.
- 11.2.7. Unauthorized vehicles are not allowed at the location of any physical activities connected to the implementation of a UNOPS Contract.
- 11.2.8. All roadside construction sites shall be barricaded to create a 2 metre safe zone. Such barricading must be visible at night.
- 11.2.9. There shall be a strict separation between pedestrians and construction vehicles at construction sites. The pedestrian walkways and the routes to be taken by construction vehicles shall be indicated on the Site Map.
- 11.2.10. Speed limits should be managed in a way that is consistent with safe Site operations and traffic movements.
- 11.2.11. Access to active or inactive construction sites by Contractor's Personnel and visitors should be limited to people who are required for the work activities that have been approved by UNOPS.
- 11.2.12. The Contractor shall ensure that there are adequate provisions for the safety of the children if child care is offered to working parents. Children shall not be allowed on Site or in any location where they could be harmed by work at or near the Site.
- 11.2.13. Workers shall not be allowed to bring necklaces or loose-fitting clothes that may be caught in rotating machines.

11.3 Vehicle fuelling/refuelling

- 11.3.1. All vehicle fuelling and servicing areas shall have ground spillage protection, i.e. concrete flooring/impermeable covering, drip trays and an oil interceptor. Where spills are likely, the Contractor must provide a spill kit, and personnel must be trained in its use.
- 11.3.2. There must be secondary containment (bund walls that can take at least 110 per cent of the total volume of stored liquids) in places where liquid hydrocarbons are stored (e.g., fuel, lubricants, used oil).
- 11.3.3. Flammable liquids must be stored in flame-proof storage containers away from buildings and combustible materials. Firefighting equipment must also be provided at locations that are readily accessible when trying to fight a fire in the flammable store.

- 11.3.4. When refuelling is done on Site from a portable container, proper refuelling procedures should be implemented to prevent spillages and fire risk. Hand pumps, proper funnels and standard proprietary fuel containers must be used. The use of ad hoc reused containers and makeshift funnels is prohibited.
- 11.3.5. Waste contaminated with hydrocarbons shall be disposed of properly to avoid fire risk and environmental contamination.

11.4 Cranes

- 11.4.1. The Contractor shall make sure that certificates of inspection and testing which are carried out in line with the relevant legislation and standards for cranes (mobile, tower and truck-mounted) are readily available when requested by UNOPS. The UNOPS Technical Coordinator, upon inspecting the cranes, may require some aspects of the cranes to be improved before the Contractor is allowed to use the crane at the Site.
- 11.4.2. The Contractor must ensure that where tower cranes are used, they are designed, erected, supervised and operated by competent persons.
- 11.4.3. All mobile cranes shall make use of spreader plates under the outriggers to ensure the load distribution is within the ground bearing capacity of the underlying ground. A competent person must check the ground bearing capacity and crane outrigger loadings and specify the size of spreader plates required.
- 11.4.4. Where crane services are used on Site (mobile and/or tower), the Contractor shall ensure the following requirements are met: relevant operator competencies, valid load test certificates (cranes including rigging equipment) and daily crane inspections. All the slings in use shall be listed in a register and inspected at least once every six (6) months.
- 11.4.5. The Contractor shall submit a relevant risk assessment and method statement/lifting plan that mitigates the specific risk factors at the Site where the lift shall take place (e.g., the effects of wind speed, possible interaction with overhead electricity lines and the presence of people in the travel zone of the load).
- 11.4.6. A lifting plan shall be prepared for all lifting activities on Site – refer to Form HS11. Special care shall be taken for critical lifts. Critical lifts are defined as:
 - a. Any lift that utilizes more than one (1) crane or hoisting device
 - b. Any lift that is over 20 tons
 - c. Any lift involving a crane-suspended work platform/cage
 - d. Any lift located over critical operating and/or process equipment
 - e. Any lift that exceeds 70 per cent of the valid load test certification of the crane
- 11.4.7. All mobile cranes shall be equipped with a drip tray that has to be in place under the crane when the crane is in operation.

- 11.4.8. Loads shall not be left suspended from a crane.
- 11.4.9. Lifting and carrying can only be done provided it is within the capabilities of the crane specified by the manufacturer.
- 11.4.10. The Contractor shall, as far as reasonably possible, avoid any lifting or rigging activities within and/or close to any existing overhead power lines and/or any other structures. The Contractor shall obtain approval from both the UNOPS Technical Coordinator and relevant authorities before any lifting or rigging activities planned within or close to existing services and or overhead power lines.

11.5 Other mobile machinery – forklifts/excavators/front end loaders and skid steer loaders

- 11.5.1. Where mobile machinery such as forklifts/excavators/front end loaders and skid steer loaders are used, these need to be fully checked by the Contractor to ensure that there are no defects before use. When they are propelled by liquid petroleum gas, the Contractor shall ensure that the regular inspections also review the controls that are in place to limit the possibility of a fire occurring.
- 11.5.2. Excavation machinery should be checked regularly by the Contractor before use.

12. SUPERVISION OF CRITICAL TASKS

- 12.1. The Contractor shall ensure that the performance of all specified work is supervised throughout the duration of the Contract by a sufficient number of competent appointed representatives of the Contractor, who have experience in the type of work specified.
- 12.2. The Contractor shall not allow work to occur without supervision. The Contractor shall also not allow workers to create hazardous arrangements or to leave situations that could become hazardous unattended. For example, a mobile crane must not be left with its boom extended and an inspection hole must not be left uncovered.
- 12.3. UNOPS classifies the following tasks as critical (with a potential to cause fatal or serious harm to workers), and as such the Contractor shall ensure their strict supervision and full compliance with Permit To Work requirements:
 - a. Working at heights (HS12)
 - b. Electrical repair and installations (HS18)
 - c. Hot work (HS09)
 - d. Energized works (HS17)
 - e. Lifting operations and including mechanical handling (HS11)
 - f. Excavation work (HS10)

- g. Demolition works (HS19)
- h. Confined space work (HS08)
- i. Working near accumulations of water and liquids

13. WORKING AT HEIGHTS

13.1 General requirements for working at heights

- 13.1.1. The Contractor must consider reducing the exposure to work at heights by ensuring that work that can be done on the ground is done on the ground.
- 13.1.2. A risk assessment and method statement/procedure shall be compiled and approved by the UNOPS Technical Coordinator before work at heights is started.
- 13.1.3. The method statement shall include a description of how the following shall be addressed: worker training and awareness about the hazards and controls for working at heights; type of equipment to be used and precautions to ensure that the equipment is used safely, e.g., checks on barricades, scaffolding, full-body safety harnesses (hereafter referred to as safety harness), lifelines and signage.
- 13.1.4. All edges must be protected by a physical barrier which is robust enough to stop a person who accidentally leans on the barrier from falling over the edge. The barrier must be at least 950 mm higher than the platform area. If the barrier is a guardrail it must be fitted with a midrail or midrails to stop someone from falling under the guardrail. The maximum gap permitted between midrails should be 470 mm.
- 13.1.5. Working platforms must be complete so that people do not fall through the floor, and secured so that they do not fall over.

13.2 Fall protection equipment

- 13.2.1. Safety harnesses shall have a “double lanyard” and be in good condition (showing no signs of physical damage). Each harness shall have a number or another means of identifying it. The Contractor shall ensure that harnesses and lanyards are listed in a register and inspected at least once every three (3) months.
- 13.2.2. The risk of falling whilst working must be prevented at any height but especially so when working above 1.8 metres. This includes situations where work activities may lead to a person falling over or under edge protection installed. In such situations, an appropriate fall restraint or safety harness system must be used.
- 13.2.3. The Contractor shall ensure that all relevant employees are trained in the usage of harnesses including how to tie off on anchor points.

- 13.2.4. The Contractor shall install a lifeline or another suitable and sufficient anchorage point approved by the UNOPS Technical Coordinator. The lifeline should not be linked to scaffolding. Inspection and testing of lifelines shall be done on a daily basis by an appointed Supervisor (who is responsible for inspecting lifeline equipment, safety harnesses and scaffolding installations).
- 13.2.5. The Contractor shall make provision to prevent objects and/or material from falling from elevated areas to protect persons below. Working platforms must be fitted with toe boards to prevent objects from falling or being kicked off. The areas where falling equipment may cause hazard shall be barricaded properly and access to these areas controlled. Warning signs are to be erected to make people aware of the hazard.
- 13.2.6. All tools and equipment as well as associated items, including but not limited to nuts, bolts and grinding discs etc., shall be transported/carried to elevated working platforms in suitable and sufficient containers.
- 13.2.7. The Contractor shall ensure that all equipment and hand tools can be secured to either the person or the structure with lanyards, bearing in mind that heavy hand tools should never be tied to a person as they may cause fall incidents. Only small hand tools are to be tied to users. When hand tools are not being used, they must be tied down to the structure.

13.3 Openings into which people could fall

- 13.3.1. The Contractor shall ensure that all openings are covered with a suitable guard which shall be highly visible, designed to withhold imposed loads, firmly affixed and not easily removable over the opening hazard.
- 13.3.2. The cover shall be identified with weatherproof signage to indicate the opening hazard which the barricading and cover is protecting. The signage may be A4 sized, be in universally recognized "Danger" symbols and colours, and in an understandable language of the workforce.
- 13.3.3. The openings shall also be guarded by a rigid, affixed barricade capable of withstanding the force of a person falling against it.

13.4 Prohibitions (working at heights)

- 13.4.1. The Contractor shall ensure that work activities at heights in weather conditions which pose a safety risk are immediately stopped.
- 13.4.2. Workers shall use proper safety harnesses with double lanyards. Safety belts that cannot distribute the force of the fall across the body and hold the user upright are prohibited.
- 13.4.3. Beam crawling or walking on pipes is prohibited.

14. SCAFFOLDING

14.1 General requirements

- 14.1.1. Scaffolds shall be well designed and erected to ensure that they are safe for use. They must be complete with all platforms, baseplates, standards, ledgers, bracings, ties and couplings in place. They shall also have guardrails, midrails and toeboards.
- 14.1.2. The roles and responsibilities of scaffolding personnel (designers, erectors, inspectors and dismantlers) shall be adequately documented by the Contractor, and the Contractor shall ensure that each person is aware of their roles and responsibilities. Only the people assigned the role of designing, erecting, inspecting or dismantling scaffolds shall be allowed to carry out these activities.
- 14.1.3. Scaffolding laydown areas requirements: scaffolding material may only be stacked/stored at the allocated laydown areas, scaffold material must not restrict the safe movement of people in the laydown area, and the area must be barricaded (e.g., scaffolding frame with orange safety netting).
- 14.1.4. All users of scaffolding must ensure that any trap doors are closed and secured when performing work on platforms.

14.2 Erection, alteration and dismantling

- 14.2.1. The erection, alteration and dismantling methods shall be documented by the Contractor in a procedure, including the means of securing scaffold boards.
- 14.2.2. The Contractor must ensure that scaffold builders are trained and declared competent. Untrained personnel are not permitted to erect, alter, inspect or dismantle scaffolding.
- 14.2.3. The Contractor shall assign a person who is legally authorized and competent to ensure that a scaffold is fit for purpose and safe for use before handing over to the scaffold user. After checking the scaffold, the person must put a tag to indicate whether the scaffold is safe or unsafe to use.
- 14.2.4. Scaffolds must be inspected:
 - Before first use
 - After any alteration
 - After any event affecting its stability
 - After adverse weather
 - Within seven (7) days of the last inspection when the scaffold is in continuous use

- 14.2.5. Scaffold builders must ensure prevention of fall measures are in place and good communication during the erecting and dismantling phases. This shall be documented in the required procedure.
- 14.2.6. Scaffolding boards to be used for scaffold erection or from scaffold dismantling should always be properly secured to prevent displacement.
- 14.2.7. During dismantling, all loose objects must be removed from the scaffold before dismantling.

15. LADDERS (PORTABLE)

15.1 General requirements

- 15.1.1. All ladders shall have an identification number, logged in a ladder register, and be inspected by a competent person and by the user prior to use.
- 15.1.2. Damaged ladders shall be marked as "DAMAGED" and removed from the project Site (or at other places, if any, as may be specified under the Contract as forming part of the Site) and replaced with ones in certified usable condition.
- 15.1.3. When ascending or descending ladders, Contractor's Personnel shall maintain three (3) points of contact at all times and shall face the ladder.
- 15.1.4. Step ladder legs shall be fully spread and the spreading bars locked in place.
- 15.1.5. Step ladders shall not be used as straight ladders.

15.2 Use of ladders

- 15.2.1. All ladders used for access shall be secured by tying at the top or by being footed at the bottom for the entire duration of use.
- 15.2.2. Portable metal ladders shall not be used in the vicinity of energized electrical circuits.
- 15.2.3. The ladder shall be placed so that the distance between the bottom of the ladder and the supporting point is approximately 1/4 of the ladder length between supports.
- 15.2.4. When using a ladder as access to an elevated position such as a roof, the installer shall ensure that the ladder side rails extend at least 1 metre above the dismount position, or that grab bars are present.
- 15.2.5. The ladder should be placed on stable level ground.

- 15.2.6. Workers shall wear a safety harness and tie off lanyards to a secure anchor whenever both hands must be used for the job or whenever the workers are exposed to a fall in excess of 1.8 metres.
- 15.2.7. Ladders must not be used as working platforms. They should only be used for accessing the working level. An appropriate working platform such as a scaffold should be put in place.

16. EXCAVATIONS

16.1 General requirements

- 16.1.1. The Contractor shall, as far as reasonably possible, avoid any excavation activities within and/or close to existing services and/or any other structures. The Contractor shall also obtain approval from both the UNOPS Technical Coordinator and relevant authorities before any excavation activities planned close to existing services lines.
- 16.1.2. The Contractor shall obtain approval to start excavation work after presenting a method statement, risk assessment and excavation permit to the UNOPS Technical Coordinator.
- 16.1.3. The excavation risk assessment shall identify risks which include but are not limited to machine toppling, engulfment of personnel, drowning from water accumulation and damage to underground services resulting in electrocution or other incidents.
- 16.1.4. All excavations are to be inspected by the Contractor's appointed competent person at the start of each shift before work commences and after inclement weather. Work may only commence if the excavation is declared safe. A barricade and signage must be put in place to indicate when the excavation is unsafe for workers to enter.
- 16.1.5. Safe means of access/egress shall be provided either by secure ladders or sloping. Stairway stepping may be used, however, the steps shall be maintained at an agreed frequency, and a written record that describes the maintenance work required and the frequency of maintenance activities shall be kept.
- 16.1.6. Excavations with a depth of more than 1 metre shall require suitable and sufficient edge protection to prevent people and vehicles from falling in.
- 16.1.7. Excavations in streets or other public places that have not been fenced off shall be covered to prevent people from falling into the excavation. Diversion signs for excavation areas on roads and streets shall be placed well ahead of the excavated so that people see them before they get to the excavations.
- 16.1.8. If works are suspended for any reason, the Contractor shall ensure that the Site will be left in a state that is safe for the public, including children from the surrounding communities. This includes mitigating hazards that may arise during the stoppage of works (e.g., ensuring that

there is no risk that children will drown because of pools of water that result from excavations filling up with rainwater).

16.2 Shoring and bracing

- 16.2.1. Shoring and bracing must be applied in excavations where a risk of collapse of unsupported ground exists. Such excavations are to be sloped or battered at the minimum angle of repose or supported using proprietary trench support systems or timbers and struts.
- 16.2.2. When deciding on the extent of shoring and bracing, consideration must be given to the increase in ground pressure introduced to excavations by the adjacent location of structures. Consideration must also be given to the increase in pressure that results from placing excavated materials too close to the edge of the excavation.
- 16.2.3. Where it is not possible to slope the sides, the risk assessment must identify methods to prevent excavation collapse.
- 16.2.4. After reviewing the risk assessment, method statement and the conditions, the UNOPS Technical Coordinator may ask the Contractor to increase or reduce the extent of shoring and bracing.

16.3 Underground service lines

- 16.3.1. Where such drawings exist, the Contractor shall obtain detailed drawings from the local authority or service provider to identify the underground service lines that could be affected by the excavation work.
- 16.3.2. Where cables are exposed, they shall be covered by wooden boards or other means as soon as possible after exposure to prevent damage from people or animals walking over the cables or objects falling on the cables.
- 16.3.3. In the event of accidental damage to cables, pipes or underground services, the work shall be stopped and the damage reported to the UNOPS Technical Coordinator.
- 16.3.4. Electricity shall be disconnected before starting the excavation if the excavation shall interface with underground electrical cables. It is the Contractor's responsibility to give sufficient notice (as required by local legislation) to the Service Provider regarding the disconnection.

16.4 Excavated material

- 16.4.1. Excavated material must as a general rule be placed a distance back from the edge of the excavation at least equal to the depth of the excavation. No materials are to be stored close to the edge of excavation to avoid putting an additional load on the walls of the excavation.

- 16.4.2. The Contractor is responsible for the management of excavations during and after work and shall make provision for appropriate barricading, illumination, signage, and management of interference to walkways, traffic, and rescue in water environments.
- 16.4.3. The Contractor shall take measures to prevent falling off or spilling of construction materials when transporting the excavation materials.

17. DEMOLITION WORK

- 17.1. The Contractor must ensure that before any demolition work is carried out, a detailed structural engineering survey of the structure to be demolished is carried out by a competent person and that a risk assessment and method statement of the demolition work has been developed and submitted to the UNOPS Technical Coordinator. The possibility of an unplanned collapse shall be considered in the risk assessment and method statement.
- 17.2. Before starting the demolition the Contractor shall check to ensure that services such as electricity, water, sewer and gas are cut off.
- 17.3. The Contractor shall also check to ensure that there are no people or animals in the structure to be demolished.
- 17.4. Demolition work must only be undertaken and supervised by competent personnel.
- 17.5. During demolition, the Contractor shall check the integrity of the structure at intervals determined in the method statement, to avoid any premature collapses.
- 17.6. The demolition Site shall have access control to ensure that there will be no unauthorized entry.
- 17.7. Demolition works that involve hazardous materials such as asbestos shall be carefully planned and handled by relevant abatement experts.

18. OPERATION OF BATCH PLANTS, CRUSHER PLANTS AND BORROW PITS

18.1 Batch plants and crusher plants

- 18.1.1. The Contractor shall ensure that hazards in batch plants and crusher plants are identified and mitigated. The hazards include nip and pinch points, moving conveyor belts, crusher jaws and concrete mixer blades. Machine guarding or other physical barriers must be in place to stop people from coming in contact with these hazards.
- 18.1.2. Repair, maintenance or cleaning work in the crusher or batch plant shall only be performed after sources of energy have been isolated, and lockout and tagging has been performed. For

example, this means that the plant must be switched off and a lock placed on the switch to prevent accidental startup before an artisan goes inside the crusher chamber to repair the crusher jaws of a crusher plant.

- 18.1.3. The Contractor must minimize the exposure of workers to dust and noise through having noise and dustproof workstations for operators and a rotation of workers to limit exposure, or other arrangements to minimize the impact of noise and dust.
- 18.1.4. All workers at batch plants and crusher plants shall be provided with respiratory protection and hearing protection PPE at a rate that will allow the PPE to be maintained in a clean and usable state.
- 18.1.5. Warning signs shall be displayed to alert people to the hazards of the batch plant or crusher plant.

18.2 Borrow pits

- 18.2.1. The Contractor shall restrict access by the public to the borrow pits.
- 18.2.2. Designated parking for small vehicles shall be put in place. Signs shall indicate that all vehicles are to reverse park at the borrow pit parking area.
- 18.2.3. The Contractor shall ensure that the movement of trucks, front end loaders, excavators or other mobile equipment shall be planned to ensure that there are no collisions during loading operations in the pit. Radio communication shall be used for communication among operators of mobile equipment and also between operators and any spotters on the ground that will be supporting the loading operations.
- 18.2.4. Borrow pits that accumulate water pose a high risk of drowning to children and livestock from the local community. The Contractor shall make borrow pits safe by reprofiling the land to remove steep slopes and minimize the accumulation of water.
- 18.2.5. The local community may request to take over the borrow pit to use it as a source of water for their livestock, irrigating crops or other use. Such arrangements should be in the form of a formal agreement between UNOPS, the Contractor and the community leadership/local authority indicating the community has been made aware of the hazards that the borrow pit poses and that they take responsibility for safety measures for the borrow pit.

19. WORKING IN INCLEMENT WEATHER

19.1 Construction work done during electrical storms

- 19.1.1. The project shall use the information provided by the local authorities or media to plan for inclement weather conditions.

- 19.1.2. During electrical storms, the Contractor shall ensure that all employees are removed from heights, operating cranes and working on top of open structural steel even when earthed.
- 19.1.3. After the storm, on-site conditions must be risk assessed and the wet conditions accounted for before work continues.

19.2 Crane operations when there is rain or snow

- 19.2.1. Lifting operations should stop when the amount of rain or snow falls affect visibility.
- 19.2.2. For electrical storms, crane operations must stop during lightning within a 10 km radius and wind above 32 km/h (20mph).

19.3 Construction work performed during rain/snow

- 19.3.1. During rain/snow conditions, all work on steel structures must stop. Workers must be protected from the adverse impacts of the weather conditions on their health, e.g., by providing shelter for the workers.
- 19.3.2. No electrical tools may be used during rain/snow fall weather in open areas.
- 19.3.3. Electrical work can be done in weatherproof areas where there is no risk of electrocution. The areas cleared for work during rain and snow are workshop(s), office(s) and work at ground level where conditions can be maintained in a dry and safe condition.
- 19.3.4. All employees that are required to continue working during rain/snow shall be provided with approved waterproof protective clothing and footwear. The UNOPS Technical Coordinator shall review and approve the clothing and footwear.

19.4 Scaffolding activities during inclement weather conditions

- 19.4.1. During inclement weather, scaffolding work will be restricted to minimal safety-critical work.

19.5 All scaffold users must:

- 19.5.1. Ensure that they only use scaffolding that has been inspected. Scaffolding shall be inspected before use and after inclement weather conditions (rain, wind, snow).
- 19.5.2. Ensure that the risks associated with working at heights during inclement weather are identified and reasonably mitigated.
- 19.5.3. Be cautious of slip/trip hazards when performing activities during inclement weather.

19.6 Driving in inclement weather

- 19.6.1. The Contractor shall ensure that the danger of driving in wet/snow/heavy wind conditions is adequately covered in their risk assessment.
- 19.6.2. The risk assessment may include (but is not limited to) route planning, speed reduction, planning for emergencies, driving precautions for slippery surfaces and visibility hazards.

20. RAISING/LOWERING LOADS BY HAND (ROPE RIGGING)

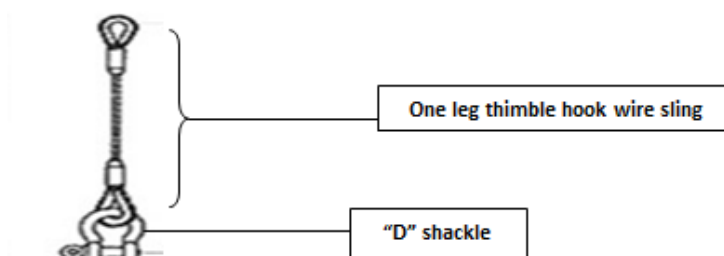
20.1 General requirements

- 20.1.1. The raising or lowering of equipment by hand using a rope has a high risk and often results in loads being dropped and persons injured.
- 20.1.2. The safest option is therefore not to allow this activity but rather use other means to lift/lower loads. Should it however not be practical and a load needs to be raised/lowered by hand, the following guidelines in Section 20.2 shall apply.

20.2 Load requirements

- 20.2.1. Only loads of 20 kg in mass or less may be raised or lowered by hand using a rope.
- 20.2.2. Ensure that all equipment, tools and materials to be lifted/lowered are placed in a bag or container and secured to the rope in such a manner that the load cannot become detached from the rope or fall out of the bag or container. The bag or container must be of sufficient strength that it will not break while the load is being raised or lowered.
- 20.2.3. Loads should not be connected to the rope using a knot. Instead, a mechanical connection (D shackle) to a thimble (see figure below) that is spliced into the rope (sling) should be used as a means of connection.

Example: Thimble and shackle on wire sling



20.3 Rope requirements

- 20.3.1. Before the initial use of ropes, ropes are to be inspected by the Rigger. The Contractor must ensure that there is a plan in place for periodic inspections of ropes by a Rigger. Users shall perform a visual inspection to identify defects before every use of the rope and record the results.
- 20.3.2. The dead-end (the other end of the rope) where the load is not attached shall be firmly fixed to a solid anchor point during lift/lowering operations.
- 20.3.3. The Contractor shall keep records of non-destructive tests that are carried out on ropes if such tests are required by national law.

20.4 Personnel requirements

- 20.4.1. The area beneath the lifting or lowering Site shall be barricaded to ensure that no persons enter under any suspended load.
- 20.4.2. A person must be present whilst lifting operations are ongoing to enforce access control at the barricaded area.
- 20.4.3. All personnel undertaking lifting or lowering by hand must be competent and briefed in the safe system of work.
- 20.4.4. Personnel undertaking lifting or lowering by hand must be aware of potential places where the load can get stuck or hooked whilst lifting/lowering takes place and take action to avoid these. The personnel must be provided with hand protection PPE.

21. TEMPORARY STORAGE AND USE OF FLAMMABLE LIQUIDS

21.1 General requirements

- 21.1.1. The Contractor shall ensure that all flammable liquid stores are adequately identified by the required signage, and capacities clearly marked. Material Safety Data Sheets shall be available at the location where the chemicals and flammable liquids are stored.
- 21.1.2. Flammable liquid storage areas must be provided with bunded spill containment that is 110 percent of the largest container or 25 per cent of the total volume stored, whichever is the greater.
- 21.1.3. The Contractor must ensure that where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard and that the area is effectively ventilated.

- 21.1.4. Smoking is strictly prohibited in any place in which flammable liquid is used or stored, and a suitable and conspicuous notice shall be placed at all entrances to any such areas prohibiting such smoking. Firefighting equipment shall be installed in suitable locations around the flammable liquids store.
- 21.1.5. The Contractor shall ensure that all containers holding flammable liquids are kept tightly closed and in locked storage when not in use and, after their contents have been used up, are removed from the construction site and safely disposed of.

22. FIRE PRECAUTIONS

22.1 General requirements

- 22.1.1. All appropriate measures are to be taken to avoid the risk of fire. The measures include the provision of sufficient and suitable storage for flammable liquids, solids and gases; the prohibition of smoking near flammable substances; posting of appropriate signage; and the provision of firefighting equipment.
- 22.1.2. All fire equipment is to be marked on the Site Establishment Plan.
- 22.1.3. No open fires are allowed on any UNOPS Site. The burning of waste is prohibited and all residual waste must be relocated to the waste area/landfill identified for disposal after waste segregation, recycling and reuse have been carried out.

22.2 Designated smoking areas

- 22.2.1. Contractors shall make provision for designated smoking areas in the areas that they control so that smoking only happens in the approved location as far away as possible from the storage of flammable substances and liquids. The location shall be chosen such that there is minimal exposure of other people to tobacco smoke.
- 22.2.2. The Contractor shall ensure that the smoking areas are equipped with sufficient waste bins (e.g., one (1) for cigarette stubs and one (1) for general waste), firefighting equipment and the necessary signage as required by legislation.
- 22.2.3. The Contractor shall ensure that the smoking area is kept clean and tidy at all times.

23. WORKING NEAR WATER ENVIRONMENTS

23.1 General requirements

- 23.1.1. The Contractor shall ensure that where construction work is done over or close to a water body, provision is made for preventing persons from falling into the water, and the rescuing of persons in danger of drowning will form part of the Emergency Management Plan.
- 23.1.2. A risk assessment and work procedure shall include (but is not limited to) the following as a minimum: identify the potential hazards such as drowning, overturning of plant/equipment into the water, rescue requirements, mandatory signage requirements (e.g., for life vests), rescue equipment requirements (e.g., life buoys/rings, rescue hooks, safety boat), trained rescue teams and access control.
- 23.1.3. The Contractor shall submit the risk assessment, work procedure and Emergency Management Plan to the UNOPS Technical Coordinator before the work commences.
- 23.1.4. Edge protection and fall restraint systems shall be used to stop people from falling into water or liquid bodies. All personnel exposed to the risk of drowning by falling into the water must be provided with and wear a lifejacket while working.
- 23.1.5. Precautions must also be taken to prevent equipment from falling into the water or liquid bodies.
- 23.1.6. No person shall be permitted to work alone next to any water or liquid body or containment facility.

24. STACKING AND STORAGE

24.1 General requirements

- 24.1.1. Contractors shall ensure that their Site Plans include stacking and storage considerations so that all stacking areas are identified and managed safely. Site planning shall include (but is not limited to) the following as a minimum:
 - a. Manual handling requirements
 - b. Stacking/storage at heights
 - c. Stacking/storage methods to be used
 - d. Load bearing platforms and racking for stacked/stored materials
 - e. Barricading requirements (i.e. walkways)
 - f. Access control requirements
 - g. Quarantined and/or redundant material management

- h. Emergency response
 - i. Fire precautions
- 24.1.2. The Contractor must ensure that a supervisor is responsible for supervising stacking and storage on Site. The supervisor will ensure that adequate storage areas are provided, that there are demarcated storage areas and that all areas will be kept neat and under control.
- 24.1.3. Flammable materials and substances must be stored in storage areas that are designed to minimize fire risk.

25. HOUSEKEEPING

25.1 General requirements

- 25.1.1. The Contractor shall ensure that waste is managed effectively so that it does not become a hazard, e.g., by increasing the possibility of fire, creating tripping hazards or providing a home for disease-causing organisms.
- 25.1.2. Contractors shall conduct Site inspections that include housekeeping checks as part of their daily supervisory activities. Loose materials including PPE must not be left unattended on Site during lunch or knock-off times. All surplus materials, tools and equipment should be stored safely and securely at appropriate storage areas until they are removed from the Site.
- 25.1.3. Contractors shall address protruding materials that could cause harm (e.g., by ensuring that nails protruding through timber are bent over or removed, and by removing reinforcement bars protruding from concrete).
- 25.1.4. On completion, the Contractor is responsible for the clearing of the Site and safe disposal of all materials, waste, temporary buildings and temporary building bases/foundations to the satisfaction of the UNOPS Technical Coordinator.

26. CONSTRUCTION EMPLOYEE FACILITIES

26.1 General requirements

- 26.1.1. The Contractor shall provide its employees with adequate facilities that meet UNOPS requirements. The design of the facilities including building materials, size and locations shall be approved by the UNOPS Technical Coordinator before the facilities are established.
- 26.1.2. The Contractor must provide, at or within reasonable access of every construction Site, the following clean, hygienic and maintained facilities in addition to the project-specific health requirements:

- a. At least one (1) sanitary facility for each gender and every 30 workers. Each sanitary facility must have a washbasin with soap, paper towels and a sanitary product disposal bin. It must also be culturally acceptable, lockable from inside, safe, have well-lit access and be gender-sensitive
 - b. At least one (1) shower facility per gender that is separate and lockable for every 15 persons (this requirement might not apply in restricted built-up areas in some city locations or for very small projects)
 - c. Changing facilities for each gender
 - d. Sheltered eating areas with hand washing water and soap available
 - e. Stable tables and chairs in the eating areas and ensure that all facilities are kept clean and dry
 - f. Adequate lighting and security arrangements to make these facilities safe at all times that workers may use them
- 26.1.3. Where applicable, the Contractor must provide reasonable and suitable living accommodation for the employees at construction Sites that are far removed from their homes and where adequate transportation between the Site and the employees' homes, or other suitable living accommodation, is not available. When living accommodation and/or transportation are provided, due consideration should be given to the safety of all, and especially of female personnel and other underrepresented or vulnerable groups.
- 26.1.4. First aid clinic facilities with a health officer in remote Sites where such facilities are not available in the nearby towns and villages, must be provided.
- 26.1.5. The Contractor shall make provision for the positioning, access, cleaning and maintenance of temporary mobile construction welfare facilities on road construction or similar type of construction projects.
- 26.1.6. The mixed storage of food, tools and/or PPE in the same compartment/space is strictly prohibited.
- 26.1.7. The Contractor shall provide adequate first aid and firefighting equipment at the workstations and the accommodation provided by the Contractor. The Contractor shall provide training in first aid and firefighting, so that first aiders and firefighters will be readily available at the Site and the construction camp/accommodation.

27. DRINKING WATER

27.1 General requirements

- 27.1.1. The Contractor shall ensure adequate provision is made for clean drinking water on Site near work areas taking into consideration that no eating or drinking in operational areas is permitted.

- 27.1.2. Should any contamination of the drinking water occur, the Contractor must prevent access to it, immediately provide an alternative supply of drinking water and report the matter immediately to the UNOPS Technical Coordinator.

28. GENERAL HYGIENE

28.1 General requirements

- 28.1.1. The Contractor shall ensure general hygiene practices such as the washing of hands, appropriate coughing etiquette, no spitting on Site, using clean PPE/apparel and equipment, and ensuring that water dispensers and food utensils are kept clean. These practices shall be included in the Safety Management System and shall be implemented and monitored on Site.
- 28.1.2. Liquor, drugs (narcotic/recreational) and weapons (guns, personal knives, etc.) are not permitted on the construction Site.
- 28.1.3. No person having consumed alcohol or drugs within the preceding 24-hour period is permitted on Site.
- 28.1.4. Personnel under medication that may affect their performance shall report to the supervisor and shall not be allowed to carry out safety-critical activities as per these requirements.
- 28.1.5. The usage of cell phones is not permitted while operating machinery, equipment or vehicles.

29. RISK ASSESSMENTS

29.1 General requirements

- 29.1.1. A baseline risk assessment before commencement of work and a risk assessment at each key stage of the work shall be submitted by the Contractor to the UNOPS Technical Coordinator, who shall approve the risk assessment after ensuring that:
- The Contractor has identified all foreseeable hazards within the assessed activity including hazards that affect some groups of workers more than others, e.g., impacts of vibration or chemical exposure may be higher risk to pregnant women
 - Hazards have been prioritized by their rating (the combination of severity and probability)
 - Adequate control/mitigation measures have been documented for each hazard
 - Both routine and non-routine conditions and special conditions have been taken into account

- 29.1.2. The Contractor must ensure that the workforce is briefed on the contents of the risk assessments before the work starts. The workers must sign the briefing register to acknowledge that they have been briefed.
- 29.1.3. The risk assessment(s) will be reviewed and amended as necessary to ensure that the Works progress safely. Triggers for change include:
- Change in Site conditions (project stage, weather, ground conditions, etc.)
 - Change in work methods
 - Change in equipment
 - Change in personnel
 - Lessons learned from incidents
- 29.1.4. UNOPS may agree to the use of Contractor's forms for risk assessments and other aspects of health and safety management if these are deemed to be of acceptable quality and have been approved by the UNOPS Project Manager.

29.2 Examples of typical project risk

- 29.2.1. Potential hazards are listed in these HS requirements to make the Contractor aware of the potential hazards that may be encountered on Site. See the list below.

Note: The list is not comprehensive and the onus lies with the Contractor to ensure that all the hazards in their scope of work are identified, before and during the project, and the necessary risk assessments are carried out.

Some of the identified potential hazards on a typical project include (but are not limited to):

<p>Hazardous environments:</p> <ul style="list-style-type: none"> • Confined spaces • Dust • Fumes • Fog • Extreme environmental conditions (distances, temperature extremes, medical service) • Extreme situational conditions (e.g., hours of work) • Insufficient lighting • Noise (above 85 dBA in certain areas) • Vibration • Rain/wet conditions • Snow • Water • Work that may have an impact on the public • Working at heights and on elevated structures above other persons (fall protection plans required) • Working in and around excavations or floor openings • Working next to moving mobile equipment • Working next to or in existing structures • Working next to public roads/railway lines/bodies of water • Working with chemical products • Working within or near electrical installations such as power lines <p>Hazardous substances:</p> <ul style="list-style-type: none"> • Asbestos Containing Materials (ACM) • Biological hazards • Chemicals • Diesel • Liquid petroleum • Solvents 	<p>Hazardous operations:</p> <ul style="list-style-type: none"> • Concrete pouring • Concreting • Crane lifts (sometimes in windy conditions) • Electrical distribution boxes installations • Erecting and demolishing structures • Erecting and dismantling scaffolding • Erecting and dismantling support-work • Excavations • Welding/grinding/cutting • Tunnel blasting • Use of explosives for stone quarrying • Piling and drilling <p>Hazardous equipment:</p> <ul style="list-style-type: none"> • Air compressors • Concrete batch plants • Chains and slings • Conveyor belts • Cranes • Earth moving equipment • Excavators • Ladders • Lifting equipment • Pressure vessels • Scaffolding • Trucks <p>Hazardous tools:</p> <ul style="list-style-type: none"> • Angle grinders • Circular saws • Electric hand tools • Welding units – arc and gas • Nuclear density gauge (Troxler) <p>Psychosocial hazards:</p> <ul style="list-style-type: none"> • Stress
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30. INSPECTIONS FOR HEALTH AND SAFETY

30.1 General requirements

- 30.1.1. The Contractor shall carry out inspections daily at all active workplaces as part of the daily supervision routine. The inspection shall be carried out by the Contractor's Supervisors and Managers and also by the Health and Safety Officers.
- 30.1.2. Findings from the inspection shall be recorded in the Contractor's Site diary or similar observation log. At least one (1) formal inspection (recorded on the UNOPS inspection form, HSE05, or similar) shall be recorded per week by the Contractor for each active Site that the Contractor will be working on.
- 30.1.3. Any work activity where hazards, unsafe acts or conditions are observed that pose a risk of death, serious ill health or serious injury to workers or other people, shall be stopped as soon as such risk is identified. Work shall only resume after the issue has been effectively addressed to the satisfaction of the UNOPS Technical Coordinator.
- 30.1.4. The Contractor shall ensure that all other issues raised in the inspection are corrected by the target date indicated in the inspection report. The date of completion of the actions shall be indicated in the inspection report and the inspection report shall be made available for verification by the UNOPS Technical Coordinator or Project Manager.
- 30.1.5. Inspections of the project Site should minimally cover and not be limited to the following:
- Equipment
 - Small equipment (form HS15)
 - Scaffolds (form HS14)
 - Lifting devices (form HS16)
 - Electrical cables
 - Fire extinguishers and first aid boxes
 - Housekeeping
 - Welfare facilities (toilets and eating areas)
 - Access control, barricading and signage
- 30.1.6. Repeated breaches of the requirements indicated in this document shall be addressed with strict corrective actions from UNOPS in line with the contract clauses that deal with breaches of health and safety requirements.

31. INCIDENT REPORTING

31.1 General requirements

- 31.1.1. Delayed reporting of incidents shall not be tolerated. The Contractor shall establish an incident reporting process that ensures that incidents are reported to UNOPS as soon as they happen and no later than six (6) hours after the incident has occurred.
- 31.1.2. The following are incidents that should be immediately reported to the UNOPS Technical Coordinator:
- Any occupational injuries and diseases/illnesses on Site (fatal cases, lost time injury or illness cases, minor injuries or illnesses)
 - All reportable incidents as required by national legislation (flying or falling objects, machinery out of control, failure of safety, dangerous substance spilt or uncontrolled release of the substance under pressure, failure to comply with medical fitness requirements)
 - Any damage caused to the property or environment
 - High potential near misses (near misses that are assessed as having the potential to result in fatal or serious incidents)
- 31.1.3. The Contractor shall collaborate with the UNOPS Technical Coordinator to ensure that all Class 2 (minor) incidents are investigated to determine the root causes. The Contractor shall also ensure that corrective and preventative actions from the incidents are effectively completed.
- 31.1.4. Class 1 incidents (fatal, lost time more than seven (7) days, and property damage above US\$20,000) shall be investigated by an investigation team convened by UNOPS. The Contractor shall fully cooperate with the investigation.
- 31.1.5. The Contractor shall not share information about incidents with the media, UNOPS partner organizations, members of the public or third parties without permission from the UNOPS Project Manager.
- 31.1.6. The Contractor shall ensure that corrective and preventative actions from incident investigations shall be carried out effectively and within the agreed timelines.
- 31.1.7. The Contractor shall also ensure that key lessons learned from other sites shared with the Contractor by the UNOPS Technical Coordinator shall be implemented within the timeline agreed with the UNOPS Technical Representative.

31.2 Immediate actions following an incident

- 31.2.1. Immediately after an incident has occurred, priority shall be given to ensuring that no further injuries occur and that the injured are given first aid followed by adequate medical attention at an appropriate medical facility. Efforts should be made to ensure that other workers and members of the public are kept away from harm.

- 31.2.2. First aid, firefighting equipment, spill kits and other initial response mechanisms shall be used to limit the impact of the incident before emergency services, such as ambulance and fire brigade services, or other help arrives.
- 31.2.3. After the initial response is complete, the location of any serious incident and any equipment involved must be secured to aid with the investigation by preventing potential evidence being disturbed.

32. EMERGENCY PREPAREDNESS

32.1 General requirements

- 32.1.1. The Contractor shall develop emergency procedures (including Site Emergency and Evacuation/Rescue Plan) based on possible emergency scenarios in the project context that could affect the Contractor's work. The emergency procedures should be part of the Contractor's Health and Safety Plan approved by the UNOPS Project Manager. Requirements for first aid, medical evacuation and fire rescue shall be addressed in the emergency procedure.
- 32.1.2. The Contractor shall ensure that the necessary firefighting equipment and PPE are in place in the respective areas, subject to approval by the UNOPS Technical Coordinator and Project Manager.
- 32.1.3. Such emergency procedures shall include (but are not limited to):
- The name and contact details of a person designated and appointed as an emergency coordinator and Site emergency evacuation marshals that are trained in the emergency procedure
 - The means of communications between evacuation marshals and the emergency coordinator (e.g., mobile phone or radio)
 - Arrangements to be followed during overtime/night time or weekend work (if applicable)
 - The communication methods to notify employees of an emergency (sirens, public announcement systems)
 - A schedule for carrying out emergency drills based on credible scenarios. The drills shall be formally recorded
 - The provision for clear walking routes and access control and assembly points during an emergency
 - Emergency telephone and ambulance numbers must be available and displayed on Site

33. WASTE MANAGEMENT

33.1 General requirements

- 33.1.1. The Contractor shall have a Waste Management Plan (WMP) for the Site under its control. The WMP is part of the Social and Environmental Plan of the project.
- 33.1.2. The WMP shall identify practical measures to minimize waste or to re-use or recycle materials and products to reduce material intensity and generation of waste. Other strategies that can be practised include:
- a. Substituting raw materials or inputs with less hazardous or toxic materials, or with those where processing generates lower waste volumes
 - b. Re-using potential waste materials in their current state
 - c. Applying processes that convert materials efficiently, providing higher product output yields, including modification of the design of the process, operating conditions and process controls
 - d. Instituting good housekeeping and operating practices including inventory control to reduce the amount of waste resulting from out-of-date materials, off-specification, contaminated, damaged, or excess to needs
 - e. Waste segregation to prevent the mixing of non-hazardous and hazardous waste, thus minimizing the volume of hazardous waste
- 33.1.3. Employees must be trained in the application of the WMP. This training may be included in the project-specific induction training and/or toolbox talks. Proof should be made available on request (HSE07 Site induction register).
- 33.1.4. All construction waste must be disposed of in accordance with national environmental legislation. Such waste should be placed in appropriate waste receptacles. The Contractor shall develop a waste register detailing the waste stream, quantity, disposal date and disposal location for each waste disposal.
- 33.1.5. Domestic waste emanating from eating areas and ablution facilities shall be marked and placed in appropriate waste receptacles. Food waste shall only be discarded in domestic waste bins. Employees shall be clearly instructed on these requirements.
- 33.1.6. Spills of diesel, oil and other hazardous chemicals and construction materials such as bitumen should be prevented at all times. All equipment that has the potential for spillages or leakages shall be equipped with drip trays. In the event of a spill, the source of the spill must be identified and addressed. The spill must be cleaned immediately and any contaminated soil must be removed and disposed of through a recognized waste disposal method with the approval of the UNOPS Technical Coordinator.

34. PERSONAL PROTECTIVE EQUIPMENT

34.1 General requirements

- 34.1.1. The Contractor shall ensure that all employees and visitors are using approved risk-based PPE at all times. No person is allowed to enter the Site without required PPE (UNOPS approved).
- 34.1.2. A Contractor shall ensure action is taken against any employee who continuously fails to use the required PPE. Action in accordance with the Legal Contract Terms and Conditions shall be taken against the Contractor should a Contractor fail to implement appropriate actions to control his/her employees.

34.2 PPE selection

- 34.2.1. Selection of PPE by the Contractor should be based on the hazard identification and risk assessment process, and selected according to criteria on performance and testing established by recognized national standards organizations or international organizations.
- 34.2.2. The Contractor shall ensure that the PPE issued is of the correct size and personnel know how to use the PPE appropriately. Women must be given PPE designed for women.
- 34.2.3. As a minimum, all personnel at a UNOPS construction Site must have safety boots, a hard hat, safety goggles and a reflective vest (or work suit with reflectors).
- 34.2.4. The Contractor shall ensure that for welding PPE, welders' and bracers' welding helmets are fitted to hardhats and that they wear respirators where applicable. Welders, bracers and cutters shall wear suitable double eye protection (face shield and safety glasses), gloves, apron and spats. Suitable spark containment screening shall be provided to protect onlookers and passers-by.
- 34.2.5. Additional PPE shall be identified from risk assessments for specific areas and tasks. This may include long sleeves, arc flash resistant clothing for any type of live electrical work, life jackets for near water construction, earmuffs for noisy construction Sites such as crusher Sites, jackhammering, etc.
- 34.2.6. When working with hazardous chemical substances, all of the PPE required in the Material Safety Data Sheet must be worn.
- 34.2.7. The Contractor must implement the specific PPE requirements for the project area to address outbreaks of diseases such as Coronavirus or Ebola. These requirements may be obtained from UNOPS before bidding for UNOPS work.
- 34.2.8. The Contractor must ensure that Contractor employees sign for PPE issued to them and that the records are maintained and made available to UNOPS upon request.

35. SAFETY ORIENTATION, INDUCTION AND TRAINING

35.1 General requirements

- 35.1.1. The Contractor shall ensure that all its employees are given adequate orientation, induction and training to perform their specific roles.
- 35.1.2. The Contractor shall identify all training needs for workers. A training matrix (HSE18) shall form part of the HS Plan and be adhered to. Proof of attendance (training registers) shall be available on Site.

35.2 Training

- 35.2.1. Training and Site induction of workers should address language barriers.
- 35.2.2. All workers performing tasks that form part of the critical risks identified at the Site shall receive training covering project high-risk exposures including but not limited to work at heights, confined space work, electrical safety, excavation work, lifting and mechanical handling of material, working near mobile and earth moving equipment, and working near water/liquid accumulations.

35.3 Safety induction

- 35.3.1. All employees and visitors are required to undergo a site induction about the general hazards prevalent on the construction Site, construction risk assessment, rules and regulations, and other related aspects. Job-specific induction will be carried out by a competent Contractor's Supervisor or trainer on the Site.
- 35.3.2. The Contractor shall maintain comprehensive records of personnel under his control attending induction training. Acknowledgement of receiving and understanding the induction must be signed by all persons receiving the induction accordingly.

36. TOOLBOX TALKS AND DAILY TASK INSTRUCTIONS

36.1 General requirements

- 36.1.1. The Contractor shall conduct safety "toolbox" talks at least twice a week with the Contractor's Site Personnel to raise health and safety awareness among the personnel. The topic of these talks shall be based on identified risks and trends associated with the project.
- 36.1.2. A spokesperson who is proficient in a language that is commonly understood by all personnel should facilitate the toolbox talk so that seeking clarifications or discussions may be done in a familiar language for the personnel.

36.1.3. The Contractor shall ensure that toolbox talks are held in groups of less than 20 people to allow for effective participation and the area where the toolbox talks are held are conducive to an effective communication session (i.e. noise levels, size of the workforce, visibility, etc. to be considered).

36.1.4. Proof of toolbox talks shall be kept on Site (HSE07 Site induction register).

36.2 Task instructions

36.2.1. The Contractor shall ensure that workers are given adequate work instructions before they start work so that they have adequate information for performing their duties safely. The instructions shall include specific precautions to address the risks identified in the risk assessment of the work and any other risks that could arise as a result of the nature of the work and the specific conditions at the time of doing the tasks.

36.2.2. The Contractor shall keep records that show the instructions given and the signatures of the workers that received the instructions for safety-critical tasks such as working at heights, performing excavation work or working in confined spaces.

37. CONSTRUCTION HS MEETING

37.1 General requirements

37.1.1. The Contractor shall establish a weekly construction meeting which may be dedicated to HS or HS may be a standing agenda. The required attendance (as a minimum) shall comprise of the Contractor Construction Manager, HSSE Officer, Construction Supervisors, UNOPS Technical Coordinator(s).

37.1.2. The purpose of the construction HS meeting/agenda item is as follows:

- a. To coordinate the HS effort of Contractor employees (including Subcontractors) on the Site
- b. To function as a forum where the individual Contractors may provide input towards the improvement of the HS standards set for the Site
- c. To coordinate HS training needs on the Site and to further develop the project induction-training programme to suit changing needs
- d. To review the incidents on the Site and act as an overall steering committee for HS performance

37.1.3. HS matters for discussion at the weekly construction HS meeting (as a minimum) include:

- a. Work plan for the week ahead

- b. UNOPS learning from incidents insights
- c. Incident investigations and non-conformances
- d. Hazardous materials/substances
- e. Work procedures
- f. Protective clothing/equipment
- g. Housekeeping and waste management
- h. Work permits
- i. Emergency preparedness
- j. Traffic control
- k. Training
- l. Forthcoming high hazard activities
- m. General health and safety issues

37.1.4. The Contractor shall record meeting minutes and distribute them to UNOPS, the Contractor's team and Subcontractors within a week of the date when the meeting was held.

38. END-OF-JOB HS DOCUMENTATION

38.1 General requirements

38.1.1. During and after completion of the construction work, the Contractor will provide a copy of the following documents to the UNOPS Project Manager for review and approval:

- a. All construction risk assessments
- b. Approved HS Plan updated
- c. List of all Subcontractors involved, their details and work scope
- d. A register of all incidents
- e. Investigation reports of all incidents (with all corrective actions completed)
- f. Records of all incidents reported to the National Regulatory Authority. i.e. Department of Labour
- g. UNOPS/Contractor/Contractor Management HS audits (site establishment, legal compliance, in-house, external and site audits)
- h. Copies of all HS non-conformance reports received/issued (including corrective and preventive action plans)
- i. A comprehensive HSSE report (statistics, recognitions, achievements, lessons learnt)
- j. Guidelines for safe operation and maintenance of the completed asset (as a standalone document or as part of the Operations and Maintenance (O&M) Manual)

39. PERFORMANCE MEASUREMENTS

39.1 General requirements

39.1.1. Performance measurement shall cover and is not limited to the following:

- a. Status of HS Plan implementation
- b. Rate of carrying out inspections
- c. Completion of training and awareness activities
- d. Number of outstanding HS action items compared to the total number of actions identified
- e. Reporting of incidents and performing incident investigations
- f. The decrease in the incident frequency ratio

40. OCCUPATIONAL HYGIENE

40.1 Lighting

40.1.1. In the absence of natural lighting, the Contractor shall ensure that workplaces are supplemented with sufficient artificial illumination to promote worker health and safety. All light sources should be energy efficient with minimum heat emission.

40.2 Ventilation and temperature

40.2.1. The Contractor shall ensure that fresh air must be supplied for work in confined spaces. Mechanical ventilation systems shall be maintained in good working order. The practice of re-circulating contaminated air is prohibited.

40.2.2. For confined spaces, the Contractor shall ensure that the measurement of oxygen, carbon dioxide or other relevant gas levels before and during the performance of work tasks are performed. A person shall be stationed outside the confined space to supervise the activity.

40.2.3. Construction/renovation activities in active healthcare facilities and hospitals require special consideration to mitigate the risk of health and safety issues both to the occupants of the facilities and construction workers. The Contractor should do a risk assessment to determine the controls required. These controls may include the provision of adequate and appropriate ventilation systems, use of appropriate PPE, etc.

40.2.4. The Contractor shall ensure that hazards associated with thermal stress are considered in site risk assessments and appropriate mitigation measures put in place to address the specific hazards identified. The measures may include PPE for protection against cold/hot weather, work

planning schedule and fatigue management (e.g., by reducing working hours and increasing breaks), provision of shaded rest areas, and drinking water for rehydration.

- 40.2.5. The wet bulb globe temperature (WBGT) or a nationally recognized method of equal standing should be used for screening environmental contribution to heat stress.

40.3 Hazardous materials

- 40.3.1. The Contractor shall where possible avoid the use of any hazardous substance by replacing it with a substance that under its normal conditions of use is not dangerous or less dangerous to the workers, following the observance of the change control process to include any impacts on design liability. Precautions must be taken to keep the risk of exposure as low as possible.
- 40.3.2. In some locations, hazardous materials may include explosive remnants of war. The Contractor may only proceed with work after the ERWs are removed. Removal of ERW will be organized by the UNOPS Project Manager who will ask specialized units such as UNMAS to safely remove, handle and dispose of the ERWs.
- 40.3.3. The Contractor shall exercise proper disposal of used hazardous materials (such as used oil and lubricants) and chemicals from demolitions.
- 40.3.4. The number of employees exposed to or likely to become exposed to hazardous materials must be kept at a minimum and the level of exposure (concentration of materials and length of time of exposure) maintained below internationally established or recognized exposure limits.
- 40.3.5. The Contractor must ensure that all chemicals and hazardous materials containers are labelled and marked to identify the contents. Material Safety Data Sheets or equivalent data/information in an easily understood language must be readily available to exposed workers and first aid personnel at the place of storage or any other place where exposure is likely.
- 40.3.6. The Contractor must ensure adequate and competent supervision of the work, work practices and the appropriate use of PPE.

40.4 Buildings and facilities

- 40.4.1. All permanent/temporary buildings and facilities shall conform to national regulations.
- 40.4.2. In absence of permanent structures, the Contractor shall erect temporary structures to provide sanitary facilities and other facilities to his/her employees performing duties on Site in line with the national regulations.
- 40.4.3. The Contractor shall ensure that all persons within the construction Site have ready access to amenities and sanitary facilities. All amenities and facilities must, at all times, be kept in a clean and hygienic condition.

40.5 Asbestos

- 40.5.1. The Contractor shall ensure that no asbestos-containing material will be allowed on Site. This refers, in particular, but not exclusively, to packing, insulation and building materials.
- 40.5.2. The Contractor shall ensure that where construction involves removal of existing structures containing asbestos, removal and disposal of such material will be done by specially trained personnel that are certified in line with national legislation where such legislation exists.
- 40.5.3. The Contractor must present a plan describing how to perform the activities to remove asbestos material, including the use of PPE and how the final disposal of the removed material shall be done without harming people or the environment.

40.6 Workshops

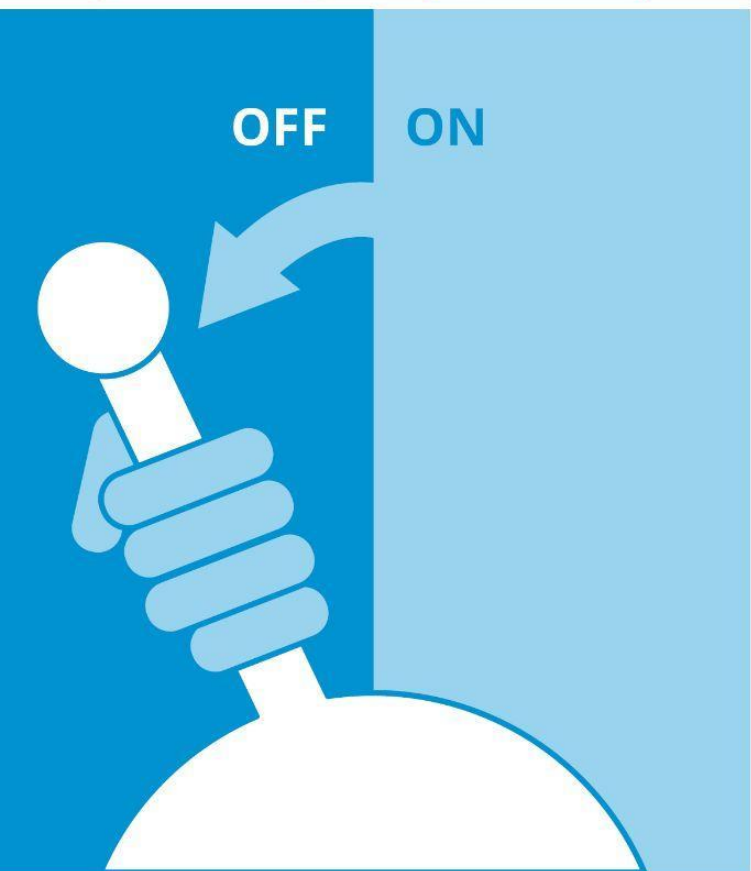
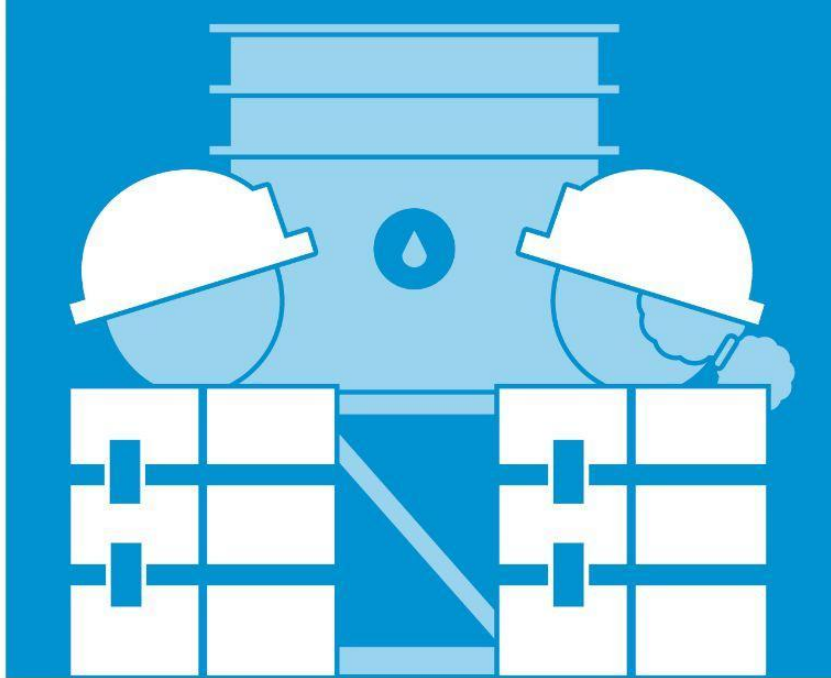
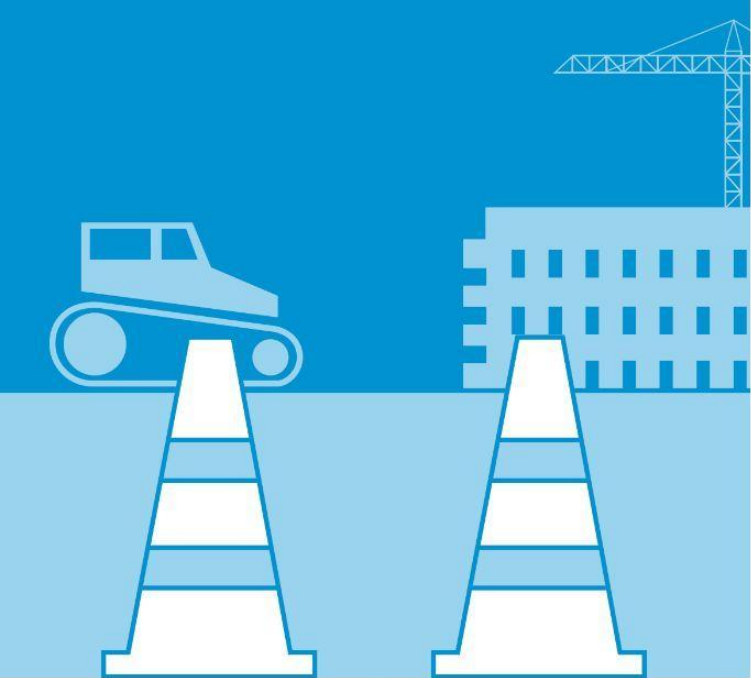
- 40.6.1. Offices should not be directly connected to workshops (with doors opening into the workshops).
- 40.6.2. The exhaust ventilation from air extraction systems in workshops must vent to the open air such that contaminated air cannot be recirculated into the workshop or any other nearby building or enclosed space.

40.7 Construction material testing site laboratories

- 40.7.1. Chemicals intended for construction materials testing should be clearly and visibly marked as dangerous/hazardous and should be handled only by competent and certified technicians.
- 40.7.2. The Contractor should avoid the use of hazardous testing equipment such as a nuclear density gauge (commonly referred to as a Troxler). Permission to use such equipment for exceptional cases should be sought from the UNOPS Technical Coordinator. In such cases, stringent controls should be put in place to ensure that the hazard, such as the radiative source in the case of the nuclear density gauge, is effectively mitigated when using and handling such equipment.

41. REFERENCES

- IFC, 2007. Environmental, Health, and Safety (EHS) Guidelines.
- ILO, 2003. Standards-related activities in the area of occupational health and safety: An in-depth study for discussion with a view to the elaboration of a plan of action for such activities, Report VI.
- UNOPS documentation
 - Amended list - UNOPS fatal and significant risks
 - EOI.CSG.2017.02, Reporting and Management of Health & Safety and Social & Environmental incidents, UNOPS
 - EOD.ED.2017.03, Occupational Health & Safety and Social & Environmental management, UNOPS
 - General Site Rules GHS01
 - Golden Rules
 - Project Health and Safety Management Plan HS01
 - Site Establishment GHS12
 - Confined spaces GHS1
 - Electrics GHS03 EN
 - Excavation GHS04
 - Lifting GHS02
 - Working at heights GHS09



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