

**REGULATIONS ON OCCUPATIONAL SAFETY AND HEALTH (OSH) IN
CONSTRUCTION**

MINISTRY OF PUBLIC SERVICE AND LABOUR

REGULATIONS ON OCCUPATIONAL SAFETY AND HEALTH (OSH) IN CONSTRUCTION

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REGULATIONS ON OCCUPATIONAL SAFETY AND HEALTH (OSH) IN CONSTRUCTION

The Minister of Public Service and Labour;

Pursuant to Law N0. 66/2018 of 30/08/2018 regulating Labour in Rwanda, especially in its Article 78;

Pursuant to Law N0.86/2013 of 11/09/2013 establishing the General Statute for Public Service, especially in its Article 68;

Having realized that there is a need to have specific sectorial Regulations to ensure Occupational Safety and Health;

Regulates the following:

CHAPTER ONE: GENERAL PROVISIONS

Article One: Definitions

In these regulations, unless the context otherwise requires, the following terms have the meanings hereby assigned to them:

1. **Adequate, appropriate or suitable** are used to describe qualitatively or quantitatively the means or method used to protect the worker;
2. **Brace:** A structural member that holds one point in a fixed position with respect to another point; bracing is a system of structural members designed to prevent distortion of a structure;
3. **By hand:** The work is done without the help of any mechanized and electrical tool;
4. **Regulations:** A document offering practical guidance on the policy and standard setting in occupational safety and health for use by employers, workers and any other persons involved in the construction process in order to promote safety and health at the national level and at the level of the enterprise;
5. **Competent authority:** A minister, government department, or other public authority having the power to issue regulations, orders or other instructions having the force of law;
6. **Competent person:** A person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill for the safe performance of the specific work. The competent authorities may define appropriate criteria for the designation of such persons and may determine the duties to be assigned to them;
7. **Danger:** Danger of accident or injury to health;

8. **Employer:** Any physical or legal person who employs one or more workers on a construction site; and as the context requires the principal contractor, the contractor or the subcontractor;
9. **Guard-rail:** An adequately secured rail erected along an exposed edge to prevent persons from falling;
10. **Hazard:** Danger or potential danger;
11. **Hoist:** A machine which lifts materials or persons by means of a platform which runs on guides;
12. **Ledger:** A scaffold member which extends longitudinally and horizontally parallel to the face of a structure, at right angles to the putlogs and which supports the putlogs, forms a tie between the posts, and becomes a part of the scaffold bracing; ledgers which do not support putlogs are also called stringers;
13. **Lifting appliance:** Any stationary or mobile appliance used for raising or lowering persons or loads;
14. **Lifting gear:** Any gear or tackle by means of which a load can be attached to a lifting appliance but which does not form an integral part of the appliance or load;
15. **Means of access or egress:** Passageways, corridors, stairs, platforms, ladders and any other means to be used by persons for normally entering or leaving the workplace or for escaping in case of danger;
16. **Putlog or bearer:** A scaffold member upon which the platform rests. In a single pole scaffold the outer end of the putlog rests on a ledger and the inner end rests in the wall; in an independent pole scaffold each end of the putlog rests on a ledger; in an independent pole scaffold a putlog is known as a bearer;
17. **Raker:** An inclined load-bearing tube or pole;
18. **Scaffold:** Any temporary structure, fixed, suspended or mobile, and its supporting components which is used for supporting workers and materials or to gain access to any such structure, and which is not a "lifting appliance" as defined above;
19. **Sound or good construction:** construction conforming to the Building standards;
20. **Sound or good material:** Material of a quality conforming to the Building standards;
21. **Toe-board:** A barrier placed along the edge of a scaffold platform, runway, etc., and secured there to guard against the slipping of persons or the falling of material;
22. **Transom:** A tube spanning across ledger to form the support for boards forming the working platform or to connect the outer standards to the inner standards;
23. **Worker:** Any person engaged in construction;
24. **Workplace:** All places where workers need to be or to go by reason of their work and which are under the control of an employer as defined in "employer".

Article 2: Purpose

The objective of these regulations is to provide practical guidance on a legal, administrative, technical and educational framework for safety and health in construction with a view to:

1. Preventing accidents and diseases and harmful effects on the health of workers arising from employment in construction;
2. Ensuring appropriate design and implementation of construction projects;
3. Providing means of analyzing from the point of view of safety, health and working conditions, construction processes, activities, technologies and operations, and of taking appropriate measures of planning, control and enforcement.

Article 3: Scope

These regulations apply to Construction activities which cover:

1. building, including excavation and the construction, structural alteration, renovation, repair, refurbishment, maintenance (including cleaning and painting) and demolition of all types of buildings or structures;
2. Civil engineering, including excavation and the construction, structural alteration, repair, maintenance and demolition;
3. The erection and dismantling of prefabricated buildings and structures, as well as the manufacturing of prefabricated elements on the construction site;
4. The fabrication and erection of oil rigs and of offshore installations while under construction on shore.

CHAPTER II: SAFETY AT WORKPLACES

Article 4: General provisions

Employer shall take all precautions to:

1. ensure that all workplaces are safe and without risk of injury to the safety and health of workers;
2. Protect persons present at or in the vicinity of a construction site from all risks which may arise from such site.

Article 5: Means of access and egress

Employer shall provide adequate and safe means of access to and egress from all workplaces.

Article 6: Housekeeping

Employer shall:

1. Establish and continuously implement a suitable housekeeping programme on each construction site which shall include provisions for the proper storage of materials and equipment and the removal of scrap, waste and debris at appropriate intervals;
2. Ensure that there are no loose materials on the site which are not required for use.

Article 7: Precautions against the fall of materials and persons, and collapse of structures

1. Employer shall:
 - (a) provide fencing, look-out men or barriers to protect any person who might be injured by the fall of materials, or tools or equipment being raised or lowered;

- (b) take effective precautions to prevent the collapse of structures or parts of structures that are being erected, maintained, repaired, refurbished, dismantled or demolished;
- (c) keep effectively covered or fenced all openings through which workers are liable to fall;
- (d) provide guard-rails and toe-boards in accordance with national standards to protect workers from falling from elevated work places;
- (e) Wherever the guard-rails and toe-boards cannot be provided:
 - (i) adequate safety nets or safety sheets shall be erected and maintained; or
 - (ii) adequate safety harnesses shall be provided and used;
- (f) Employees working where objects can fall from the upper floors will have the helmets and other protective equipment;
During excavation works the ground shall be properly supported to avoid ground collapsing over employees.

Article 8: Prevention of unauthorized entry

1. Employer shall fence a construction sites in built-up areas and alongside vehicular and pedestrian traffic routes to prevent the entry of unauthorized persons;
2. Visitors must be accompanied by or authorized by a competent person and be provided with the appropriate protective equipment;
3. Look through nets will be used to avoid objects falling or speeding, which can cause injury

Article 9: Fire prevention and fire fighting

Employer shall

1. Take all appropriate measures to:
 - (a) prevent the risk of fire;
 - (b) control quickly and efficiently any outbreak of fire;
 - (c) bring about a quick and safe evacuation of persons.
 - (d) Provision of smoke detectors and fire alarms
2. Provide a sufficient, suitable and secured storage for flammable liquids, solids and gases.

CHAPTER III: SCAFFOLDS AND LADDERS

Article 10: General provisions

Employer shall provide a safe and suitable scaffold where work cannot safely be done on or from the ground or from part of a building or other permanent structure.

Article 11: Materials

Employer shall:

1. provide sufficient suitable and sound material to be used in the construction of scaffolds;
2. ensure that timber used in the construction of scaffolds is straight-grained, sound, and free from large knots, dry rot, worm holes and other defects likely to affect its strength;

3. ensure that there is no rope which is defective whether through contact with acids or other corrosive substances or otherwise is used on scaffolds;
4. ensure that Boards and planks used for scaffolds are protected against splitting;
5. ensure that Ladders, boards and planks used in scaffolds are not painted so that any defects are visible;
6. ensure that materials used in the construction of scaffolds are stored under good conditions and apart from any material unsuitable for scaffolds;
7. ensure that all tubes, couplers and fittings used in metal tubular scaffoldings are of a standard and type approved by the competent authority. All couplers and fittings are free from damage and distortion, and must be maintained in an oiled condition;
8. ensure that couplers must not cause deformation in tubes;
9. ensure that Tubes are free from cracks, splits and excessive corrosion and be straight to the eye, and tube ends cut cleanly square with the tube axis;
10. ensure that Alloy and steel tubing are not intermixed on the same scaffold.

Article 12: Inspection and maintenance

1. Scaffolds shall be inspected:
 - (a) before being taken into use;
 - (b) at periodic intervals thereafter as prescribed for different types of scaffolds;
 - (c) After any alteration, interruption in use, exposure to weather or seismic conditions or any other occurrence likely to have affected their strength or stability;
 - (d) If are of suitable type and adequate for the job;
 - (e) If materials used in its construction are sound and of sufficient strength;
 - (f) that the required safeguards are in position.
2. A scaffold shall not be erected, substantially altered or dismantled except by or under the supervision of a competent person.

Article 13: Use of scaffolds

1. The employer shall provide competent supervision to ensure that all scaffolds are used appropriately and only for the purpose for which they are designed or erected. In transferring heavy loads on or to a scaffold a sudden shock shall not be transmitted to the scaffold;
2. scaffolds shall be controlled to prevent danger;
3. The load on the scaffold shall be evenly distributed, as far as practicable, and in any case shall be so distributed as to avoid disturbance of the stability of the scaffold;
4. During the use of a scaffold care shall constantly be taken that it is not overloaded or otherwise misused;
5. Scaffolds shall not be used for the storage of material except that required for immediate use;
6. Workers shall not be employed on external scaffolds in weather conditions that threaten their safety.

Article 14: Suspended scaffolds

Suspended scaffolds shall meet the following specific requirements in so far as such requirements are applicable:

1. platforms shall be designed and built with dimensions that are compatible with the stability of the structure as a whole, especially the length;
2. the number of anchorages shall be compatible with the dimensions of the platform;
3. the safety of workers shall be safeguarded by an extra rope having a point of attachment independent of the anchorage arrangements of the scaffold;
4. the anchorages and other elements of support of the scaffold shall be designed and built in such a way as to ensure sufficient strength;
5. the ropes, winches, pulleys or pulley blocks shall be designed, assembled, used and maintained according to the requirements established for lifting gear adapted to the lifting of persons according to national standards;
6. before use, the whole structure shall be checked.

CHAPTER IV: LIFTING APPLIANCES AND GEAR

Article 15: General provisions

1. Employers shall have a well-planned safety programme to ensure that all the lifting appliances and lifting gear are selected, installed, examined, tested, maintained, operated and dismantled:
 - (a) with a view to preventing the occurrence of any accident;
 - (b) in accordance with the requirements laid down in the national and international standards;
2. Every lifting appliance and every item of lifting gear having a single safe working load shall be clearly marked at a conspicuous place with the maximum safe working load in accordance with national or international standards;
3. Every lifting appliance having a variable safe working load shall be fitted with a load indicator or other effective means to indicate clearly to the driver each maximum safe working load and the conditions under which it is applicable;
4. All lifting appliances shall be adequately and securely supported; the weight-bearing characteristics of the ground on which the lifting appliance is to operate shall be surveyed in advance of use.

Article 16: Installation

Fixed lifting appliances shall be installed:

1. so that they cannot be displaced by the load, vibration or other influences;
2. so that the operator is not exposed to danger from loads, ropes or drums;
3. so that the operator can either see over the zone of operations or communicate with all loading and unloading points by telephone, signals or other adequate means;
4. The clearance from electrical conductors shall be more for high voltages in accordance with the requirements of national standards;

5. The strength and stability of lifting appliances shall take into account the effect of any wind forces to which they may be exposed;
6. No structural alterations or repairs shall be made to any part of a lifting appliance which may affect the safety of the appliance without the permission and supervision of the competent person.

Article 17: Examinations and tests

Lifting appliances and items of lifting gear shall be examined and tested:

1. before being taken into use for the first time;
2. after erection on a site;
3. subsequently at least once in 6 months;
4. after any substantial alteration or repair.

Article 18: Controls, Control devices and Cabins

Controls of lifting appliances shall be:

1. designed and constructed as far as possible in accordance with ergonomic principles;
2. conveniently situated with ample room for operation and an unrestricted view for the operator;
3. provided, where necessary, with a suitable locking device to prevent accidental movement or displacement;
4. in a position free from danger from the passage of the load;
5. clearly marked to show their purpose and method of operation;
6. equipped with devices that would prevent the load from over-running and prevent the load from moving if power fails;

The operator of every lifting appliance used outdoors except those used for short periods shall be provided with:

- i. a safe cabin with full protection from weather and adverse climatic conditions, and designed and constructed in accordance with ergonomic principles;
- ii. a clear and unrestricted view of the area of operation;
- iii. Safe access to and egress from the cabin, including situations where the operator is taken ill.

Article 19: Operation

1. A lifting appliance or item of lifting gear shall not be loaded beyond its safe working load or loads, except for testing purposes as specified by and under the direction of a competent person;
2. No person shall be raised, lowered or carried by a lifting appliance unless it is constructed, installed and used for that purpose in accordance with national standards, except in an emergency situation:
 - i. in which serious personal injury or fatality may occur;
 - ii. for which the lifting appliance can safely be used;

3. Every part of a load in the course of being hoisted or lowered shall be adequately suspended or supported so as to prevent danger;
4. Every platform or receptacle used for hoisting bricks, tiles, slates or other loose material shall be so enclosed as to prevent the fall of any of the material;
5. Loaded wheelbarrows placed directly on a platform for raising or lowering shall be taped or secured so that they cannot move and the platform shall be enclosed as necessary to prevent the fall of the contents;
6. In hoisting a barrow, the wheel shall not be used as a means of lifting unless efficient steps are taken to prevent the axle from slipping out of the bearings;
7. To avoid danger, long objects such as girders shall be guided with a tag line while being raised or lowered;
8. Landings shall be so designed and arranged that workers are not obliged to lean out into empty space for loading and unloading;
9. The hoisting of loads at points where there is a regular flow of traffic shall be carried out in an enclosed space, or if this is impracticable (e.g. in the case of bulky objects), measures shall be taken to hold up or divert the traffic for the time necessary.

Article 20: Hoists

1. Hoist towers shall be designed according to national/ international standards;
2. Hoist shafts shall be enclosed with rigid panels or other adequate fencing:
 - (a) at ground level on all sides;
 - (b) at all other levels at all points at which access is provided;
 - (c) at all points at which persons are liable to be struck by any moving part.
3. A suitable ladderway shall extend from the bottom to the top of outdoor hoist towers, if no other ladderway exists within easy reach;
4. Hoisting engines shall be of ample capacity to control the heaviest load that they will have to move;
5. Hoists shall be provided with devices that stop the hoisting engine as soon as the platform reaches its highest stopping place;
6. Hoist platforms shall be capable of supporting the maximum load that they will have to carry with a safety factor;
7. Hoist platforms shall be equipped with safety gear that will hold the platform with the maximum load if the hoisting rope breaks;
8. If workers have to enter the cage or go on the platform at landings there shall be a locking arrangement preventing the cage or platform from moving while any worker is in or on it;
9. On sides not used for loading and unloading, hoist platforms shall be provided with toe-boards and enclosures of wire mesh or other suitable material to prevent the fall of parts of loads;
10. Where necessary to prevent danger from falling objects, hoist platforms shall be provided with adequate covering;

11. Counterweights consisting of an assemblage of several parts shall be made of specially constructed parts rigidly connected together;
12. Suitable platforms shall be provided at all landings used by workers;
13. Platform at landings shall be locked to prevent the cage or platform from moving while any worker is in or on it;
14. On sides not used for loading and unloading, hoist platforms shall be provided with toe-boards and enclosures of wire mesh or other suitable material to prevent the fall of parts of loads;
15. Hoist platforms shall be provided with adequate covering to prevent danger from falling objects;
16. Suitable platforms shall be provided at all landings used by workers;
17. The following notices shall be posted up conspicuously and in very legible characters:
 - (a) On all hoists;
 - (b) On the platform: the carrying capacity in kilograms or other appropriate
 - (i) standard unit of weight;
 - (ii) On the hoisting engine: the lifting capacity in kilograms or other appropriate
 - (iii) standard unit of weight;
 - (c) On hoists authorized or certified for the conveyance of persons: on the platform
 - (i) or cage: the maximum number of persons to be carried at one time;
 - (d) On hoists for goods only: on every approach to the hoist and on the platform:
 - (ii) prohibition of use by persons.

Article 21: Derricks stiff-leg derricks

1. Derricks shall be erected on a firm base capable of taking the combined weight of the crane structure and maximum rated load;
2. Suitable devices shall be used to prevent masts from lifting out of their seatings;
3. Counterweights shall be so arranged that they do not subject the backstays, sleepers or pivots to excessive strain.

Article 22: Tower cranes

1. Where tower cranes have cabs at high level, persons shall only be employed as crane operators who are capable and trained to work at heights;
2. The characteristics of the various machines available shall be considered against the operating requirements and the surroundings in which the crane will operate before a particular type of crane is selected;
3. Employer shall take care in the assessment of wind loads both during operations and out of service. Account shall also be taken of the effects of high structures on wind forces in the vicinity of the crane;
4. The ground on which the tower crane stands shall have adequate bearing capacity. Account shall be taken of seasonal variations in ground conditions;
5. Tower cranes shall only be erected at a safe distance from excavations and ditches.

Article 23: Lifting ropes

1. Only ropes with a known and adequate safe working capacity shall be used as lifting ropes;
2. Repaired steel ropes shall not be used on hoists;
3. Where multiple independent ropes are used, for the purpose of stability, to lift a work platform, each rope shall be capable of carrying the load independently.

CHAPTER V: TRANSPORT, EARTH-MOVING AND MATERIALS-HANDLING EQUIPMENT

Article 24: General provisions

1. All vehicles and earth-moving or materials-handling equipment shall:
 - (a) Be of good design and construction taking into account as far as possible ergonomic principles particularly with reference to the seat;
 - (b) Be maintained in good working order;
 - (c) Be properly used with due regard to safety and health;
 - (d) Be operated by workers who have received appropriate training in accordance with National or International laws and regulations,
2. The drivers and operators of vehicles and earthmoving or materials handling equipment shall be medically fit, trained and tested and of a prescribed minimum age as required by national or International laws and regulations,
3. On all construction sites on which vehicles, earthmoving or materials handling equipment are used:
 - (a) Safe and suitable access ways shall be provided for them;
 - (b) Traffic shall be so organized and controlled as to secure their safe operation,
4. Adequate signalling or other control arrangements or devices shall be provided to guard against danger from the movement of vehicles and earth-moving or materials-handling equipment. Special safety precautions shall be taken for vehicles and equipment when manoeuvring backwards.

Article 25: Power shovels, excavators

1. If necessary to prevent danger during inspection or repair, the jib of power shovels shall be equipped with a ladder protected by a guard-rail and toe-board;
2. Excavators that are equipped for use as mobile cranes shall:
 - (a) Be examined and tested in accordance with national laws and regulations for mobile cranes;
 - (b) Be fitted with an automatic safe working load indicator, when practicable.

Article 26: Bulldozers

1. Before leaving a bulldozer the operator shall:
 - (a) Apply the brakes;
 - (b) Lower the blade and ripper;

- (c) Put the shift lever in neutral;
- 2. At the close of work bulldozers shall be left on level ground;
- 3. When a bulldozer is moving uphill the blade shall be kept low;
- 4. Bulldozer blades shall not be used as brakes except in an emergency.

Article 27: Mobile asphalt layers and finishers

- 1. Wooden floors in front of the sprayers shall be covered with corrugated sheet metal;
- 2. The mixer elevator shall be within a wooden or sheet-metal enclosure which shall have a window for observation, lubrication and maintenance;
- 3. The sprayer shall be provided with a fire-resisting shield with an observation window;
- 4. To avoid fire risks due to foaming:
 - (a) Boilers shall have a device that prevents foam from reaching the burners; or
 - (b) Only non-foaming products shall be used;
- 5. When asphalt plants are working on public roads, an adequate traffic control system shall be established and reflective jackets provided for the workers;
- 6. A sufficient number of fire extinguishers shall be kept in readiness on the worksite, including at least two on the spreader;
- 7. Material shall only be loaded on to the elevator after the drying drum has warmed up;
- 8. Inspection openings shall not be opened while there is any pressure in the boiler.

Article 28: Pavers

Pavers shall be equipped with guards that prevent workers from walking under the skip.

Article 29: Road rollers

- 1. Before a road roller is used the ground shall be examined for bearing capacity and general safety, especially at the edges of slopes such as embankments;
- 2. Rollers shall not move downhill with the engine out of gear;
- 3. When a roller is not in use:
 - (a) The brakes shall be applied;
 - (b) The engine shall be put into bottom gear if the roller is facing uphill;
 - (c) The engine shall be put into reverse if the roller is facing downhill;
 - (d) The contact shall be switched off;
 - (e) The wheels shall be blocked.

CHAPTER VI: PLANT, MACHINERY, EQUIPMENT AND HAND TOOLS

Article 30: Hand Tools

- 1. Hand tools and implements shall be tempered, dressed and repaired by competent persons;
- 2. The cutting edges of cutting tools shall be kept sharp;

3. When not in use and while being carried or transported sharp tools shall be kept in sheaths, shields, chests or other suitable containers;
4. Only insulated or non-conducting tools shall be used on or near live electrical installations if there is any risk of electrical shock;
5. Only non-sparking tools shall be used near or in the presence of flammable or explosive dusts or vapours.

Article 31: Electrical Tools

1. Portable electrical tools shall generally be used on reduced voltage to avoid as far as possible the risk of a lethal shock;
2. All electrical tools shall receive inspection and maintenance on a regular basis by a competent electrician, and complete records kept.

Article 32: Woodworking machines

1. Shavings, sawdust, etc, shall not be removed by hand from woodworking machines or in their vicinity while the machines are working;
2. Portable circular saws shall be so designed that when the blade is running idle it is automatically covered;
3. Woodworking machines shall be properly spaced to avoid accidental injury when handling large boards or long planks.

Article 33: Engines

Engines shall:

1. Be constructed and installed so that they can be started safely and the maximum safe speed cannot be exceeded;
2. Have remote controls for limiting speed when necessary;
3. Have devices to stop them from a safe place in an emergency.

Article 34: Concrete work equipment

1. Concrete mixers shall be protected by side railings to prevent workers from passing under the skip while it is raised;
2. Hoppers into which a person could fall, and revolving blades of trough or batch-type mixers, shall be adequately guarded by grating;
3. In addition to the operating brake, skips of concrete mixers shall be provided with a device or devices by which they can be securely blocked when raised;
4. While the drum of a concrete mixer is being cleaned, adequate precautions shall be taken to protect the workers inside by locking switches open, removing fuses or otherwise cutting off the power;
5. Concrete bucket towers and masts with pouring gutters or conveyor belts shall:
 - (a) Be erected by competent persons;
 - (b) Be inspected daily.

Article 35: Crusher Plants

1. Crusher plants shall be located at a safe distance from the construction work area to avoid injury to workers and damage to the workers resulting from dust, sand, gravel, noise and vibrations;
2. Electrical motors, switches, connections and all instrumentation shall be dust and moisture proof;
3. Equipment, plant and machinery shall be cleared daily of dust and sand;
4. Earth-moving equipment working at a crusher plant shall be cleaned and maintained after each work shift.

Article 36: Power Generators

1. Power generators shall meet national laws and Regulations for safe and reliable operation;
2. Power generators shall be located in enclosed and properly ventilated areas;
3. Power generators shall be provided with adequate silencers and exhaust piping;
4. When located near workers' accommodation, power generators shall be housed in a concrete room or properly insulated area in accordance with national laws and Regulations to minimize noise disturbance.

CHAPTER VII: WORK AT HEIGHTS INCLUDING ROOF WORK

Article 37: Roof work

1. All roof-work operations shall be pre-planned and properly supervised;
2. Roof work shall only be undertaken by workers who are physically and psychologically fit and have the necessary knowledge and experience for such work;
3. Crawling boards, walkways and roof ladders shall be securely fastened to a firm structure;
4. Roofing brackets shall fit the slope of the roof and be securely supported;
5. When work is being carried out on sloping roofs, sufficient and suitable crawling boards or roof ladders shall be provided and firmly secured in position as soon as is practicable;
6. During extensive work on the roof, strong barriers or guard-rails and toe boards shall be provided to stop a person from falling off the roof;
7. Where workers are required to work on or near roofs or other places covered with fragile material, through which they are liable to fall, they shall be provided with sufficient suitable roof ladders or crawling boards strong enough, when spanning across the supports for the roof covering, to support those workers;
8. Buildings with fragile roofs shall have a warning notice prominently displayed at the approaches to the roof.

CHAPTER VIII: EXCAVATIONS, SHAFTS, EARTHWORKS, UNDERGROUND WORKS AND TUNNELS

Article 38: Excavations

1. Before digging begins on site:
 - (a) All excavation work shall be planned and the method of excavation and the type of support work required decided;
 - (b) The stability of the ground shall be verified by a competent person;
 - (c) A competent person shall check that the excavation will not affect adjoining buildings, structures or roadways;
 - (d) The employer shall verify the position of all the public utilities such as underground sewers, gas pipes, water pipes and electrical conductors that may cause danger during work;
2. All excavation work shall be supervised by a competent person and operatives doing the work shall be given clear instructions;
3. Sides of excavations where workers are exposed to danger from moving ground shall be made safe by sloping, shoring, portable shields or other effective means.

Article 39: Underground construction

1. All underground workings shall be traversed by a regular air current to keep them in a fit state for working;
2. Where adequate ventilation is not possible, workers shall be provided with suitable breathing apparatus;
3. All places where workers have to work or pass shall be adequately lit;
4. In addition to the main lighting, there shall be emergency lighting that functions long enough to enable the workers to reach the surface safely.

Article 40: Dust Control

1. Adequate measures shall be taken to prevent the formation of, or to suppress as close to the source as practicable, all dust in tunneling operations and in particular siliceous dusts consisting of particles less than 5 microns in size;
2. If drilling in rock is done dry, the dust produced shall be effectively exhausted and collected;
3. If drilling in rock is done wet, the drill shall be so constructed that it cannot be operated unless the water feed is operating;
4. During blasting, before any shots are fired the floor, roof and sides in the vicinity shall be thoroughly wetted, if practicable;
5. Loose rock shall be adequately wetted during loading, transport and unloading underground;
6. Excavated material shall not be exposed to high-velocity air currents during transport;
7. If any stone-crushing equipment is used underground, adequate measures shall be taken to prevent any dust from it penetrating to areas occupied by workers.

Article 41: Underground Pipelines

1. Adequate ventilation shall be provided for workers in pipelines;
2. When laying pipes in water-bearing ground, a flood gate shall be provided at the end section;
3. When bodies of water or explosive gases may be encountered, trial boreholes shall be drilled ahead of the workings;
4. Reliable means of communication between workers inside pipes and persons outside shall be provided;
5. It shall be possible for workers employed in piping to reach a safe place quickly in an emergency;
6. Adequate arrangements shall be made to rescue workers who are in danger and cannot reach a safe place.

CHAPTER IX: DEMOLITION

Article 42: Demolition of walls

1. Walls shall be demolished storey by storey beginning at the roof and working downwards;
2. Where necessary, unsupported walls shall be prevented from falling by means such as shoring and ties.

Article 43: Demolition of floors

1. When necessary to prevent danger, workers demolishing floors shall be provided with planking or walkways on which to stand or move;
2. Openings through which material is dropped shall be adequately fenced or barricaded to prevent danger;
3. All work above each tier of floor beams shall be completed before the safety of the tier supports is impaired.

Article 44: Demolition of structural steelwork

1. All practicable precautions shall be taken to prevent danger from any sudden twist, spring or collapse of steelwork, ironwork or reinforced concrete when it is cut or released;
2. Steel construction shall be demolished tier by tier;
3. Structural steel parts shall be lowered and not dropped from a height.

Article 45: Demolition of tall chimneys

1. Tall chimneys shall not be demolished by blasting or overturning unless a protected area of adequate dimensions can be established in which the chimney can fall safely;
2. Tall chimneys shall only be demolished by competent persons under constant competent supervision;
3. Workers shall not stand on top of the chimney wall;

4. Material thrown down shall only be removed during breaks in the work or under controlled conditions.

CHAPTER X. ELECTRICITY

Article 46: General provisions

1. All electrical equipment and installations shall be constructed, installed and maintained by a competent person, and so used as to guard against danger;
2. All parts of electrical installations shall be so constructed, installed and maintained as to prevent danger of electric shock, fire and external explosion;
3. The power supply to all electrical equipment shall be provided with means of cutting off current from all conductors in an emergency;
4. All electrical appliances and outlets shall be clearly marked to indicate their purpose and voltage;
5. Adequate precautions shall be taken to prevent installations from receiving current at a higher voltage from other installations;
6. Suitable warnings shall be displayed at all places where contact with or proximity to electrical equipment can cause danger;
7. Persons having to operate electrical equipment shall be fully instructed as to any possible dangers of the equipment concerned.

Article 47: Inspection and maintenance

1. All electrical equipment shall be inspected before it is taken into use to ensure that it is suitable for its proposed use;
2. At the beginning of every shift, the person using the electrical equipment shall make a careful external examination of the equipment and conductors, especially the flexible cables;
3. Apart from some exceptional cases, work on or near live parts of electrical equipment shall be forbidden;
4. Before any work is begun on conductors or equipment that do not have to remain live:
 - (a) The current shall be switched off by a responsible person;
 - (b) Adequate precautions shall be taken to prevent the current from being switched on again;
 - (c) The conductors or the equipment shall be tested to ascertain that they are dead;
 - (d) The conductors and equipment shall be earthed and short-circuited;
 - (e) Neighboring live parts shall be adequately protected against accidental contact;
5. Electricians shall be supplied with sufficient adequate tools, and personal protective equipment such as rubber gloves, mats and blankets.

Article 48: Testing

1. Electrical installations shall be inspected and tested and the results recorded in accordance with national or International laws or regulations;

2. Periodic testing of the efficiency of the earth leakage protective devices shall be carried out.

CHAPTER XI: EXPLOSIVES

Article 49: General provisions

1. Explosives shall not be stored, transported, handled or used except:
 - (a) Under conditions prescribed by national laws or regulations;
 - (b) By a competent person, who shall take all necessary steps to ensure that workers and other persons are not exposed to risk of injury;
2. Before explosives are used for blasting on a site, an agreed system of work shall be prepared and the responsibilities of persons involved detailed in writing;
3. As far as practicable, blasting shall be done off shift or during breaks in the work;
4. As far as practicable, blasting above ground shall be done in daylight;
5. If blasting above ground has to be done during darkness, roadways and pathways shall be adequately lit;
6. If blasting can endanger workers in another enterprise:
 - (a) Blasting times shall be agreed between the two enterprises;
 - (b) Shots shall not be fired until a warning has been given to the other enterprise and acknowledged by it;
7. At an appropriate time before the final blasting warning, workers in the area shall be removed to a designated safe place;
8. To prevent persons entering any danger zone during blasting operations:
 - (a) look-outs shall be posted around the area of operations;
 - (b) Warning flags shall be flown
 - (c) Conspicuous notices shall be posted at points around the area of operations;
9. Smoking and open flames shall not be allowed in the loading area.

Article 50: Transport, Storage and Handling

1. All explosives supplied to and issued from a magazine shall be accounted for and recorded and unused explosives shall be returned to the same magazine on the completion of the operation for which they were drawn;
2. Detonators shall be stored or transported separately from the explosives;
3. Workers storing, transporting or handling explosives or travelling on vehicles carrying explosives shall not smoke or carry open lights;
4. Road and rail vehicles used to transport explosives should:
 - (a) Be in good condition and running order;
 - (b) Have a tight wooden or non-sparking metal floor;
 - (c) Have sides and ends high enough to prevent the explosives from falling out;
 - (d) In the case of road vehicles, carry at least two suitable fire extinguishers;

(e) Be plainly marked by a red flag, lettering or otherwise to indicate that they are carrying explosives;

5. Explosives and detonators shall be transported separately from the magazine to the workplace in their original containers or in special closed containers of non-sparking metal;
6. Different types of explosives shall not be transported in the same container;
7. Containers shall be marked to show the type of explosive kept in them;
8. Only flameproof electric lighting equipment shall be allowed in explosives magazines;
9. Flammable substances or sparking metal objects shall not be stored or used in explosives magazines;
10. Overshoes shall be kept at each store and worn by people who have to enter them;
11. Only persons authorized to handle explosives shall have the keys of magazines, storerooms or cases for explosives;
12. As soon as the approach of an electrical storm is detected, all workers shall be removed from the area where explosives are stored or are in use.

CHAPTERXII: HEALTH HAZARDS, FIRST AID AND OCCUPATIONAL HEALTH SERVICES

Article 51: General provisions

For works which by their very nature expose workers to hazards arising from the use or presence of chemical, physical or biological agents and climatic conditions, appropriate preventive measures shall be taken to avoid any danger to the safety and health of workers.

Article 52: Occupational Health Services

1. The employer shall provide for the setting up of or access to an occupational health service;
2. All workers shall be subject to health surveillance;
3. Monitoring and control of the working environment and planning of safety and health precautions shall be performed as prescribed by national or International laws and regulations;
4. Whenever new products, equipment and working methods are introduced, special attention shall be paid to informing and training workers with respect to the implications for safety and health.

Article 53: First Aid

1. The employer shall be responsible for ensuring that first aid, including the provision of trained personnel, is available. Arrangements shall be made for ensuring the removal for medical attention of workers who have suffered an accident or sudden illness;
2. First-aid kits or boxes, as appropriate, shall be provided at the workplaces;

3. First-aid kits and boxes shall not contain anything besides material for first aid in emergencies;
4. First-aid kits and boxes shall contain simple and clear instructions to be followed, be kept under the charge of a responsible person qualified to render first aid and be regularly inspected and kept properly stocked;

Article 54: Hazardous Substances

1. In the use of materials that contain hazardous substances and in the removal and disposal of waste, the health of workers and of the public and the preservation of the environment shall be safeguarded;
2. Where the use of toxic solvents, certain thinners, certain paints or volatile chemical substances cannot be avoided, special precautions shall be taken such as providing general and local exhaust ventilation, and, if this is not practicable or is inadequate, respiratory protective equipment shall be used. Such measures shall be applied more rigorously in situations when such chemicals are heated or used in confined spaces. Paints and adhesives which present health hazards shall be replaced with water-dispersed products;
3. Skin contact with hazardous chemicals shall be avoided;
4. When it is necessary to deal with proven carcinogenic substances, particularly in work involving bituminous or tar asphalt, asbestos fibers, pitch, some heavy oils, and some aromatic solvents, strict measures shall be taken to avoid inhalation and skin contact. Particular care shall be taken with substances where there is reliable evidence of suspected carcinogenic effects.

Article 55: Dangerous Atmospheres

1. Where workers are required to enter any area in which a toxic or harmful substance may be present, or in which there may be an oxygen deficiency or a flammable atmosphere, adequate measures shall be taken to guard against danger;
2. No person shall enter a confined space or area with a dangerous atmosphere or deficiency of oxygen unless:
 - (a) The atmosphere has been found to be safe
 - (b) Adequate ventilation is provided;
3. If the conditions in the preceding paragraph cannot conveniently be fulfilled, persons may enter such spaces for prescribed periods using air lines or self-contained breathing apparatus and safety harnesses with lifelines;
4. While a worker is in a confined space:
 - (a) Adequate facilities and equipment including breathing apparatus, resuscitation apparatus and oxygen shall be readily available for rescue purposes;
 - (b) A fully trained attendant or attendants shall be stationed at or near the opening;
 - (c) Suitable means of communication shall be maintained between the worker and the attendant or attendants.

Article 56: Heat Stress, Cold and Wet Conditions

1. Whenever heat stress, cold or wet conditions are such that they can lead to impairment of health or extreme discomfort, preventive measures shall be taken, such as:
 - (a) Proper design of the workload and workstation, with special regard to workers in cabins, and command or driving operations;
 - (b) Training, to enable detection of early signs of disorders;
 - (c) Supply of protective equipment;
 - (d) Routine medical surveillance;
2. When working in hot conditions, preventive measures to avoid heat stress shall include rest in cool areas and an adequate supply of drinking water and any other soft drink.

Article 57: Noise and Vibration

1. Employers shall provide protection for workers from the harmful effects of noise and vibration from machines and work processes, by measures including:
 - (a) Replacing hazardous machines and processes by less hazardous ones;
 - (b) Reducing the exposure of workers;
 - (c) Providing personal hearing protection;
2. Employers shall give priority to the reduction of the duration of workers' exposure to noise and vibration when operating:
 - (a) Jackhammers, drills and compressors;
 - (b) High impact noise tools such as cartridge-operated guns;
 - (c) Manually operated vibratory tools, especially those operated upwards or in a cold environment.
3. Employers shall provide personal protective equipment where the harmful effects of noise and vibration will be experienced by workers; this shall include:
 - (a) Hearing protection which can be worn with a safety helmet;
 - (b) In the case of vibration, suitable protective gloves.

Article 58: Biological Agents

In areas where biological agents pose a hazard, preventive measures shall be taken which take account of the mode of transmission; in particular:

1. The provision of sanitation and information for workers;
2. Action against vectors, such as rats and insects;
3. Chemical prophylaxis and immunization;
4. The availability of antidotes and suitable preventive and curative medicine, mainly in rural areas;
5. The supply of protective clothing and other appropriate precautions.

Article 59: Additional Provisions

1. The manual lifting of weights which presents a safety and health risk to workers shall be avoided by reducing the weight, by the use of mechanical devices or by other means;

2. Waste shall not be destroyed or otherwise disposed of on a construction site in a manner which is liable to be injurious to health.

Article 60: Personal Protective Equipment and Protective Clothing

1. Where adequate protection against the risk of accident or injury to health, including exposure to adverse conditions, cannot be ensured by other means, suitable personal protective equipment and protective clothing, having regard to the type of work and risks, shall be provided and maintained by the employer, without cost to the workers, as may be prescribed by national laws or regulations;
2. Employers shall provide the workers with the appropriate means to enable them to use the individual protective equipment and shall require and ensure its proper use;
3. Workers shall be required to make proper use of and to take good care of the personal protective equipment and protective clothing provided for their use;
4. Workers shall be instructed in the use of personal protective equipment and protective clothing;
5. Workers working alone on construction sites in confined spaces, enclosed premises or in remote or inaccessible places shall be provided with an appropriate alarm and the means of rapidly summoning assistance in an emergency.

CHAPTER XIII: WELFARE

Article 61: General provisions

1. At or within reasonable access of every construction site an adequate supply of wholesome drinking water shall be provided;
2. At or within reasonable access of every construction site, the following facilities should, depending on the number of workers and the duration of the work, be provided, kept clean and maintained:
 - (a) Sanitary and washing facilities or showers;
 - (b) Facilities for changing and for the storage and drying of clothing;
 - (c) Accommodation for taking meals and for taking shelter during interruption of work due to adverse weather conditions.
3. Men and women workers shall be provided with separate sanitary and washing facilities.

Article 62: Drinking Water

1. All drinking water shall be from a source approved by the competent authority;
2. Where such water is not available, the competent authority shall ensure that the necessary steps are taken to make any water to be used for drinking fit for human consumption;
3. Drinking water for common use shall only be stored in closed containers from which the water shall be dispensed through taps or cocks;
4. If drinking water has to be transported to the worksite, the transport arrangements shall be approved by the competent authority;

5. The transport tanks, storage tanks and dispensing container shall be designed, used, cleaned and disinfected at suitable intervals in a manner approved by the competent authority;
6. Water that is unfit to drink shall be conspicuously indicated by notices prohibiting workers from drinking it;
7. A supply of drinking water shall never be connected to a supply of water that is unfit to drink.

Article 63: Sanitary Facilities

1. The scale of provision of toilet or sanitary facilities, and the construction and installation of water flush toilets, privies, chemical closets, plumbing or other toilet fixtures shall comply with the requirements of the competent authority;
2. No toilet other than a water flush toilet shall be installed in any building containing sleeping, eating or other living accommodation and shall be adequately ventilated and not open directly into occupied rooms;
3. Adequate washing facilities shall be provided as near as practicable to toilet facilities.

Article 64: Washing Facilities

1. The number and standard of construction and maintenance of washing facilities shall comply with the requirements of the competent authority;
2. Washing facilities shall not be used for any other purpose;
3. Where workers are exposed to skin contamination by poisonous, infectious or irritating substances, or oil, grease or dust, there shall be a sufficient number of appropriate washing facilities or shower-baths.

Article 65: Cloakrooms (Toilets)

1. Cloakrooms shall be provided for workers at easily accessible places and not be used for any other purpose;
2. Cloakrooms shall be provided with suitable facilities for drying wet clothes and for hanging clothing including, where necessary to avoid contamination, suitable lockers separating working from street clothes;
3. Suitable arrangements shall be made for disinfecting cloakrooms and lockers.

Article 66: Facilities for Food and Drink

In appropriate cases, depending on the number of workers, the duration of the work and its location, adequate facilities for obtaining or preparing food and drink at or near a construction site shall be provided, if not otherwise available.

Article 67: Shelters

Shelters should, as far as practicable, provide facilities for washing, taking meals and for drying and storing clothing, unless such facilities are available in the vicinity.

Article 68: Living Accommodation

Suitable living accommodation shall be made available for the workers at construction sites which are remote from their homes, where adequate transportation between the site and their homes or other suitable living accommodation is not available. Men and women workers shall be provided with separate sanitary, washing and sleeping facilities.

Article 69: Information and Training

1. Workers shall be adequately and suitably:
 - (a) informed of potential safety and health hazards to which they may be exposed at their workplace;
 - (b) Instructed and trained in the measures available for the prevention and control, and protection against, those hazards;
2. No person shall be employed in any work at a construction site unless that person has received the necessary information, instruction and training so as to be able to do the work competently and safely;
3. The information, instruction and training shall be given in a language understood by the worker and written, oral, visual and participative approaches shall be used to ensure that the worker has assimilated the material;
4. The employer has the duty to set up appropriate training schemes or arrange to train or retrain various categories of workers;
5. Specialized instruction and training shall be given to:
 - (a) Drivers and operators of lifting appliances, transport vehicles, earth-moving and materials-handling equipment and plant, and machinery or equipment of a specialized or dangerous nature;
 - (b) Workers engaged in the erection or dismantling of scaffolds;
 - (c) Workers engaged in excavations deep enough to cause danger, or shafts, earthworks, underground works or tunnels;
 - (d) Workers handling explosives or engaged in blasting operations;
 - (e) Workers engaged in pile-driving;
 - (f) Workers working in compressed air, cofferdams and caissons;
 - (g) Workers engaged in the erection of prefabricated parts or steel structural frames and tall chimneys, and in concrete work, formwork and such other work;
 - (h) Workers handling hazardous substances;
 - (i) Workers working as signalers;
 - (j) Other specialized categories of workers.

Article 70: Reporting of Accidents and Diseases

1. All accidents to workers causing loss of life or serious injury shall be reported forthwith to the competent authority and an investigation of these accidents shall be made;
2. Dangerous occurrences such as:
 - (a) Explosions and serious fires;

- (b) The collapse of cranes, derricks or other lifting appliances;
- (c) The collapse of buildings, structures or scaffolds, or parts thereof, shall be reported forthwith to the competent authority in such form and manner as may be prescribed, whether any personal injury has been caused or not.

CHAPTER XIV: FINAL PROVISIONS

Article 71: Authorities responsible for the implementation of these Regulations

The Minister of Public Service and Labour, the Minister of Health and the Minister of Infrastructure are entrusted with the implementation of these Regulations.

Article 72: Specific guidelines

The Minister having occupational safety and health in his/her responsibilities may issue further specific guidelines on specific occupational safety and health matters.

Article 73: Commencement

This Order shall come into force on the date of its signature by the Minister having occupational safety and health in his/her responsibilities.

Kigali, on...*11*.../...*10*...2019



RWANYINDO KAYIRANGWA Fanfan
Minister of Public Service and Labour

