# MINISTERIAL REGULATION PRESCRIBING THE STANDARD FOR ADMINISTRATION AND MANAGEMENT OF OCCUPATIONAL SAFETY, HEALTH AND ENVIRONMENT FOR CONSTRUCTION WORK

## B.E. 2551 (A.D. 2008)

By virtue of Section 6 and Section 103 of the Labour Protection Act B.E. 2541, which contains certain provisions in relation to the restriction of rights and liberties of the individual which are allowed under Section 29 together with Section 33, Section 41 and Section 43 of the Constitution of the Kingdom of Thailand, the Minister of Labour hereby issues the Ministerial Regulation as follows.

Clause 1 This Ministerial Regulation shall come into force after 90 days from the date of its publication in the Government Gazette.

Clause 2 In this Ministerial Regulation,

"Construction Work" refers to the constructional operation of all kinds of structures such as building, airport, railway, tramway, road, tunnel, habour, dock, ship beams, piers, bridges, waterway, drainage or tap water pipes, fences, walls, doors, boards or constructed structures for board installing, mens or built structures for car parking or u-turning and car entries and exits and refers to the addition, repair, renovation, adaptation, moving or demolition of those constructed structures.

"Building" refers to the buildings as stipulated by building control law.

"Construction Area" refers to construction area including surrounding which the employer designates under this Ministerial Regulation.

Unofficial

OSH Ministerial Regulation


"Dangerous Zone" refers to the construction area, the area where scaffolding has been erected, crane or derrick or electrical machines or equipment is/are being used for construction purpose, the area where construction materials are conveyed or fuel, explosive or constructional materials are stored.

"Electrical Equipment" refers to equipment and tool or machinery that uses electricity as power source or as accessory or that uses electricity in some part.

"Pile" refers to the material sunk underground to bear weight of various structures by relaying the weight of the building structure or other constructed structures onto the lower layer of earth or for use as an earth retaining wall.

"Bored Pile" refers to a concrete pile, whether or not reinforced, constructed by concrete pouring into an earth hole opened by digging or drilling.

"Pile Driving" refers to a method that drives a pile into the ground much as desired by hammering or pressing.

"Pile driver" refers to a machine used to drive piles. It consists of a structure and a power source machine, either separated or combined as a set.

"Floating Carriage" refers to a ship, raft or floating base or any similar structure used in construction work.

"Sheet Wall" refers to a reinforced concrete wall that is used against the earth or the underground wall of a structure. It is built by digging or boring earth off and pouring concrete into that bored or dug groove.

"Prop" refers to a temporary structure that supports or holds or reinforces the strength of the scaffold or concrete formwork.

"Machine" refers to a structure consisting of several parts for energy generation, change or transmission by using hydro, steam, fuel, wind, gas, electricity or other power and includes equipment, flywheels, pulleys, conveyor belts, shafts, gears or any other stuff working together including machine tools.

"Crane or Derrick" refers to machinery that is used to lift materials up and down or to and fro and includes pulley machines that alleviate materials vertically.

Unofficial

OSH Ministerial Regulation


"Temporary Freight Elevator" means machinery used to transport materials up and down for constructing benefits and comprises of lift shaft, lift cabin and machine.

"Temporary Passenger Elevator" refers to a machine for passenger transport up and down for construction purpose and consists of lift shaft, lift cabin and machine.

"Sling Wire" means a rope made of several twined wires or twined around the core in a single or several layers.

"Scaffold" refers to a work place raised high from ground or building floor or part of the construction work to support the worker or constructing materials temporarily.

"Construction Work in Water" refers to all kinds of construction in water or on erected structure over the water and includes the construction using Floating Carriage.

"Safety Ratio" refers to the ratio of the force unit or load weight expected to cause calamity to the actual force unit or load weight.

"Engineer" refers to the holder of the engineering professional license under the Engineer Law.

"Work Supervisor" refers to the person responsible for the administration or supervision over the construction work as per the work nature and type.

"Pile driver Operator" means the person who operates the pile driver as desired.

"Crane or Derrick Operator" refers to the person who operates the crane or derrick to function as wanted.

Unofficial

## Chapter 1
## General Provision

**Clause 3** The Employer shall arrange the safety plan for any of the following construction works.

OSH Ministerial Regulation


(1)The building that contains the entire space of all floors or any floor in one roof for more than 2,000 square metres or the building from 15 metres high that has the entire space of all floors or any floor in one roof for more than 1,000 square meters.

(2)The bridge from 30 metres long or the bridge over a junction or the elevated road, the u-turn bridge or the interchange.

(3)The excavating, repairing or demolishing work of the utility system from 3 meters deep or more.

(4)The tunnel or underpass work.

(5) Any other construction work as stipulated by the Director-General.

The work safety plan mentioned in Paragraph One shall conform to the regulation designated by the Director General.

Clause 4 The Employer shall make the constructing site sturdy enough to safely bear the weight of the machinery and equipment.

Clause 5 The Employer shall arrange a work supervisor who shall check the working safety prior to working and during every working stage to ensure safety.

Clause 6 The Employer shall keep the constructing site clean by storing the constructing materials and equipment in order and separating or disposing the wastes or garbage, whether or not dangerous, to avert hazard to health and safety of the Employee and shall have the excavated earth moved off the constructing site and if unable to move it in time, the Employer shall provide earth container to assure safety.

Clause 7 In case of use of explosives in construction work, the Employer shall set up the explosive material storage and maintaining system in accordance with the hazardous material law and the weaponry, bullets, explosives, fireworks and weaponry imitation law and shall supervise the Employees or any person not to use it/them for any other purpose.

Clause 8 In case an Employee is required to carry out the construction work on a level from 1.50 metres high, the Employer shall arrange ladder or ramp together with strong and stable barrier rail for safety reason.

Unofficial

OSH Ministerial Regulation


Clause 9 The Employer shall not permit his Employees to conduct the construction work during the natural disaster except the work is for the constructional safety or for rescue or relief the mishap given that the Employees' safety during such work shall be taken in account.

Clause 10 The Employer shall provide sufficient emergency lighting in the construction area in response to the power blackout.

Clause 11 The Employer shall install danger warning board at every vehicle entry and exit and have a fire alarm stationed during the vehicle entering and exiting the construction area.

Clause 12 The Employer shall install the board showing phone numbers of the relevant offices for emergency response reason such as the nearest hospitals, fire fighting agencies, public rescuer offices, in a clearly visible spot of the construction area.

Clause 13 The Employer shall post warning label and boards and regulatory signs such as "Caution", "No Entry" or "Wear Personal Protective Equipment" in the construction area for safety reason by using comprehensible and visible texts.

Clause 14 The Employer shall arrange for work trainings such as how to use machinery use and relevant signals for the employees periodically.

Clause 15 In case the Employer provides shuttle service to and from the construction area to the employees, the Employer shall arrange for proper yet safe vehicles.

Unofficial

## Chapter 2
## Construction Area

Clause 16 The Employer shall set up a stable fence not less than 2 metres high around the construction area or divide the construction area from the rest area with proper materials as per the work nature and post clearly seen "construction area" board(s).

Clause 17 The Employer shall designate "Dangerous Zone" in the construction area by making a fence or dividing such dangerous zone with proper materials and erect visible "Dangerous Zone" board(s) and orange light signal(s) shall be turned on at nights.

OSH Ministerial Regulation


Clause 18 The Employer shall not permit his employees to reside in any building built during the construction work or in the construction area except the Employer provides safety measures and receives a written approval from engineer. The mentioned approval shall be kept in the construction area for checking by labour inspector and the Employer shall supervise to ensure the compliance with those measures at all times.

In case of approval for residing in the building being constructed during the construction or in the construction area as mentioned in Paragraph One, the Employer shall

(1) Erect visible Residential Zone Board(s) in the Residential Zone.

(2) Build up strong residential fence.

(3) Designate the entry and exit and pathway leading to the residences without passing the Dangerous Zone; set up special safety measures for the Employees in case the pathway pass through the Dangerous Zone; and establish preventive measures against material falloffs from high area.

Clause 19 The Employer shall install warning or regulatory sign board to show the path ahead is a merging traffic or crossroad in the construction area.

As for route with curve or sharp curve, the employer shall mount a convex mirror with diameter not less than 50 cm. or any other equipment for clear visibility of employees and vehicle drivers who drive in the opposite lane.

Unofficial

## Chapter 3
## Electricity Work and Fire Prevention

### Part 1
### Electricity Work

Clause 20 As for electrical system installation and use in construction area, the Employer shall prepare for a circuit drawing certified by the Engineer and shall keep it for checking by the labour inspector at all time. The Engineer shall also make supervision over the electricity installation and use to ensure safety in accordance with the standard of local electricity office. In case of no such standard, it is required

OSH Ministerial Regulation


to comply with the standard of the Engineering Institute of Thailand under H.M. the King's Royal Patronage.

Clause 21 The Employer shall arrange for circuit breaker switch to control electricity use in the construction area for safety purpose and the installation of the switch shall be in line with the standard of the local electricity office. In case of no such standard, it is required to comply with the standard of the Engineering Institute of Thailand under H.M. the King's Royal Patronage.

Clause 22 The Employer shall arrange for electricity leakage protective system by connecting the ground wire for all kinds of the stationary electrical transformers, electrical switchboard(s) and equipment installed. The ground wire of any other electrical equipment shall be connected with the outlet with connecting point to earth. The installing of such electricity leakage protective system shall be in line with the standard of the local electricity office. In case of no such standard, it is required to comply with the standard of the Engineering Institute of Thailand under H.M. the King's Royal Patronage.

Clause 23 During the installation, checking or repairing and maintenance of electricity system, the Employer shall, throughout such working period, arrange for a key to prevent the circuit connection or arrange for the system that shall prevent any person from switching on circuits connection and shall post a board to indicate or prohibit the circuit connection switching.

Clause 24 The Employer shall arrange for board showing reflective letters or symbols to warn of danger from electricity in the areas where transformers and electrical switchboards are situated.

**Part 2**

**Fire Accident Prevention**

Clause 25 The Employer shall not keep inflammable materials or explosives in the building being built during the construction period and the Employees' residences in the construction area except that such storage is made in a safe place as necessary for daily use only.

Clause 26 The Employer shall not permit any irrelevant person to access the inflammable material or explosive storage area and shall erect "Danger", "No Smoking", "No Sparkling" or "No Lighting Equipment" board(s) or board showing

Unofficial

OSH Ministerial Regulation


any other similar statements as per the condition or specifications of those inflammable materials or explosives in that area. Those boards shall be clearly visible.

Clause 27 The Employer shall arrange for portable fire extinguishers that are proper for the type of the fuels and contain not les than 4 kilograms of solution per unit. At least one of such fire extinguishers shall be installed in each point of the metal welding work, painting work using flammable solvent, or work possible to cause fire or the flammable or explosive material storage area.

Regarding the installation of the fire extinguisher at each of those points, the most upper part of the fire extinguisher shall not be higher than 1.4 metres from the building floor and the fire extinguisher shall be in a visible and conventionally usable area. The fire extinguishers shall be checked for their workability at least once every six months.

Clause 28 The Employer shall provide fire exit and staircases including symbolic sign of fire exit on every floor of the building being built during the construction period and shall not permit any stack of materials, machinery or other stuffs to barricade the fire exit and staircases. In addition, each fire exit shall not be less than 1.1 metres wide and the fire exit, being a temporary one, shall be sturdy and safe for the users.

Clause 29 The construction of any building with height from 15 metres and more or with the space of more than 2,000 square metres in all floors or any floor under the same roof shall have the fire alarm reporting system that can sound visibly throughout the building.

## Chapter 4
## Excavating and Boring Work

Clause 30 As for excavating and boring work, the Employer shall set up barricade fence, lighting and warning board(s) as per the nature of the construction work for working safety. At nights, orange lighting signal or reflective board(s) shall be used as well.

Clause 31 The excavation or boring of any hole, well, canal and any other similar work that might cause danger from falling are required to be covered with a

Unofficial

OSH Ministerial Regulation


sheet of metal or any other material sturdy enough and surrounded with a wood or metal fence.

Clause 32 The excavation or boring of any hole, well, canal and any other similar work from 2 metres deep shall require calculation, design and operation process designation of the Engineer prior to operation and the Employer shall abide by those drawings and process and shall install soil collapse preventing device(s).

Clause 33 The utilities in the area where excavation or boring of any hole, well, canal or any other similar work in the utility area is carried out shall be removed as deemed necessary to prevent danger. Danger preventive measures shall be adopted in special case to avert hazard to the Employees or any other persons in case some utilities cannot or do not have to be removed off.

Clause 34 In case the Employer orders any Employee to work in the excavated hole, well, canal or any other similar work with depth from 2 metres or more, the following materials shall be given.

(1) Convenient and safe down-and-up path.

(2) Efficient water pump.

(3) Appropriate and sufficient air ventilation and lighting system.

(4) Supervisor who has experience in soil work and has passed the first-aid and rescue training shall station at the opening of the hole, well or canal or any other similar area ready to give aids during working.

(5) Communication or signal transmitting and receiving equipment that gives out mutually understandable communication between the Employee working in that hole, well, canal or similar work and the rescuer mentioned in (4) in emergency case.

(6) Safety rope and safety belt together with holding equipment that shall be used in case of emergency case.

Clause 35 In the area where excavation or drilling of a hole, well, canal or any other similar work is carried out, the Employer shall provide steel casing, steel sheet, strut(s) or any other device to prevent danger from soil collapse and shall have an Engineer to check the safety.

Clause 36 In case of use of crane or derrick or heavy machinery for operation or the existence of a pile of materials or heavy equipment close to the mouth of the excavated or bored hole, well, canal or any other similar work, the Employer shall erect sheet piles or use any other method to prevent soil collapse.

Unofficial

Clause 37 The Employer shall not order any Employee to work in the hole dug or bored for more than 12 hours from the excavation or drilling commencement or for more than 3 hours after the excavation or digging completion except having soil collapse preventive system or equipment.

Clause 38 The Employer shall not order any Employee to work in a dug or bored hole, well or canal or any other similar area with width less than 75 cm. and depth from 2 metres or more.

## Chapter 5

## Constructing Work with Piles and Sheet wall

### Part 1

### Piles

Clause 39 The Employer shall have the Employee who operates the pile driver trained as per the criteria, methods and conditions stipulated by the Director General.

Clause 40 Regarding the assembly, installation, test, use, repair and maintenance and check over the pile driver, the Employer shall abide by the specifications of the pile drivers and use manuals stipulated by the manufacturer of such machines. In case of no specifications or use manuals, the Employer shall comply with the written specifications or use manuals designated by the Engineer.

Clause 41 The pile driver to be used by the Employer shall have the following characteristics:

(1) The structure of the pile driver shall retain the safety ratio at not less than 2.

(2) The structure of the pile driver shall be made of metal with yield point at less than 2,400 kilograms per square centimeter.

(3) The structure of the pile driver shall be fixed, supported or held to remain stable, sturdy and safe.

(4) The pulley beam and the beam mount shall bear the total weight of the pulley, cylindrical hammer and pile at not less than 5 in safety ratio.

(5) The sliding rail of the pile driver shall bear not less than two times the weight of the pile driver.

Unofficial

OSH Ministerial Regulation


In case of use of the diesel hammer pile driver, the equipment holding the structure of the pile driver shall record not less 6 in safety ratio.

If the pile driver is made by the Employer, the Engineer shall be the designer and calculator of the structure and stipulate the specification in line with Paragraph One.

Clause 42 Upon the completion of the pile driver installation, the Employer shall have the Engineer to check and record the check date and time and the check results to build up accuracy and compliance with Clause 41 prior to use of that pile driver. The Employer shall store those check result documents for checking by the labour inspector at all time.

Clause 43 The Employer shall make available the Pile Driver Operating Manual and the Manual of the Communicating Signaling between the Pile Driver Operators for the Employees to study and practice for working safety.

Clause 44 The Employer shall arrange the lifting weight limit board(s) and pile driver operating suggestion board(s) at the point or location where the pile driver operator can see them clearly.

Clause 45 Before starting the pile driving work each day, the Employer shall have the Work Supervisor to check for safe working conditions of the equipment, sliding rail, jacks and all components of the pile driver. The Work Supervisor shall also check the pile driver to assure that it stands on a strong yet stable area and record the check date and time including the check results so that the Employer can keep those check result documents for the labour inspector to audit them.

Clause 46 As for the pile driver operation, the Employer shall arrange a steel structure and wire netting roof to ward off objects falling to the pile driver operator. Each side of the hole of the wire netting shall not be more than 20 millimetres and the diameter of the wire shall not be less than 1.25 millimeter as stipulated in the standard of Thai Industrial Standard Institute except that the pile driver has a sturdy and safe roof.

Clause 47 The Employer shall supervise the moving of any pile to ensure safety of the Employees. If rail is used for such purpose, the pile sliding rail shall be placed in a proper level and supported by strong and stable sleepers. If moving the

Unofficial

OSH Ministerial Regulation


pile by any other method, the Employer shall have the Engineer or the Work Supervisor to set the moving method and supervise it to assure safety.

Clause 48 The Employer shall give supervision for the Employees to use pulley or sling to hold the pile in the position designed by the Engineer when the pile is lifted up straight in the pile sending rail.

Clause 49 The Employer shall make supervision so that the Employees who have the duty of changing the pile cap shall perform as follows:

(1) To change the pile cap when cylindrical hammer stops working and is in a safe position.

(2) When the change of the pile cap has been completed and the Employee who is the pile cap changer has gone off the area of the pile sending rail, the Work Supervisor shall give signal to the pile driver operator to continue working.

Clause 50 In the pile driving area, the Employer shall arrange not to have any barricade to the pile driver operator's visibility during his operation.

Clause 51 The Employer shall arrange the measures that prevent toxic smoke of the pile driver from dispersing to harm the Employees or arrange the air ventilation system for that area.

Clause 52 In case of installing or moving the pile driver to the position close to power cable, the Employer shall abide by the standard of the local electricity office. In case of no such standard, it is required to comply with the standard of the Engineering Institute of Thailand under H.M. the King's Royal Patronage.

Clause 53 In case of installing or using of the pile driver or moving or lifting the material close to signal transmitter tower, the Employer, prior to giving permission for the Employees to start working, shall check for inductive electric charges and if any of such has been found, the Employer shall connect the wire with the pile driver or that material so as to let the electric charge flow down to ground. This, however, shall be in line with the standard of the Engineering Institute of Thailand under the King's Royal Patronage.

Clause 54 In case of use of a hollow pile with hole at the middle from 15 cm in diameter or more, the Employer shall have such hole of the pile closed immediately with strong material to prevent any material or living creature fall into such hole.

Unofficial

OSH Ministerial Regulation


Clause 55 In case of breakdown or malfunction or unsafe condition of the pile driver, the Employer shall not order any Employee to use that pile driver until repair to restore its safe working conditions is completed.

Prior to repairing the pile driver of the steam, pneumatic or hydraulic type, the Employer shall arrange for the reduction of pile driver's pressure to the safe level prior. Repairing of the pile driver of the internal engine combustion system or diesel hammer system needs prior stop of engine.

Clause 56 Working in regard to the pile driver of the steam, wind, hydraulic and internal engine combustion systems, diesel hammer or other system requires the Employer to follow the rules, methods and conditions stipulated by the Director General.

Clause 57 Working with a large bored pile with diameter from 75 cm. or more demands the Employer to station Engineers with experience in geological engineering at the construction site throughout the working period of the Employees and the Employees working for the matter shall have large pile working skills.

Clause 58 In case of working with two or more bored piles with distance less than six times of their diameter, the Employer cannot order the Employees to work in the hole of any pile while the nearby pile hole has not been poured with concrete or the concrete poured in that hole has not yet been set.

Clause 59 In case the Employer has ordered the Employees to carry out the bored pile work in a limited area such as under the low ceiling, in narrow nook or corner, the Employer shall provide hazard preventive measures for each specific case to protect the Employees from danger.

Clause 60 The Employer shall not let the Employees to conduct the pile driving and boring work during storm, rain, lightning or any other natural disaster except in a necessary case. Upon the approval of the Engineer, the Employer can order the Employees to keep on doing the remaining work till completion but special hazard preventive measures shall be arranged.

Clause 61 The Employer shall provide the Engineer to supervise the pile load test by arranging the test, method, process, and equipment used in the test as stipulated by the Engineer such as jacks, meters, the fixing with the anchoring pile(s), load plate and test beam. The list of the calculation of the strength of all test equipment shall be shown that they can bear the test weight safely.

Unofficial

OSH Ministerial Regulation


Clause 62 The Employer shall arrange clear signs showing the area of the pile load test and prevent irrelevant persons to access such zone.

Clause 63 The Employer shall stop the pile load test immediately if there is a cause that might lead to danger.

**Part 2**

**Sheet Wall**

Clause 64 Construction of sheet wall shall be supervised at all time by the Engineer who has experience in the field. This is for the safety of the Employees.

The provisions in Clauses no. 57, 58 and 59 shall be effective onto the construction of the sheet wall mutatis mutandis.

Clause 65 During doing underground construction and the soil excavation off the sheet wall, the Employer shall install clinometers to check the position of the sheet wall and make warning about possible danger.

In case the position of sheet wall moves, warning signal makes sound or there is any action possibly causing danger to the Employees, the Employer shall order to stop the construction and evacuate the Employees out from that area immediately.

**Chapter 6**

**Props**

Clause 66 As for strut using, the Employer shall arrange for the calculation, designing and use control under the Engineer's certification as follows:

(1) A strut made of steel shall bear operational load not less than two times of operational load. Non-steel struts shall bear operational load not less than five times of operational load and shall be attached with the Material Strength Document.

(2) A wooden strut shall not be rotten or defective to the extent that it is neither strong nor durable but shall have the ultimate bending stress not less than 300 kilograms per square centimeter and not less than 4 in safety ratio.

(3) A steel strut shall be made of steel having not less than 2,400 kilograms per square centimeter in yield point and not less than 2 in safety ratio.

Unofficial

OSH Ministerial Regulation


(4) Joints and couplings of struts shall be strong and sturdy.

(5) In case of having strut shoes, they shall bear the load not less than two times operational load.

(6) The strut shall be bound or fixed on ground or with a part of the constructed structure stably and sturdily.

Clause 67 In case of pouring concrete above the strut, the Employer shall control the concrete pouring to meet the standard of the Engineering Institute of Thailand under the King's Royal Patronage and prevent any irrelevant person to stay under that concrete pouring area.

Clause 68 The Employer shall build, assemble, install and check the struts to ensure their sturdiness, security and safety.

## Chapter 7
## Machinery and Cranes and Derricks

### Part 1
### Machinery

Clause 69 In case of the installation or test of the operation of the machine and equipment in or outside the building being constructed that might lead to danger such as the installation or test of the working of the electricity system or machine, the Employer shall arrange for an engineer to draw up the installation or test plan and make supervision throughout the installation or test. If the installation or test has not yet been finished, the area or room where the machine and equipment stands during the installation or test shall be closed down safely before another round of installation or test can be carried out.

Clause 70 With respect to the perilous working with machine, the Employer shall use the Employees who are skillful in using it and have passed the training as per the rules, methods and conditions specified by the Director General.

Clause 71 The Employer shall arrange the danger preventive devices for the Employees who work with machines. Those devices, for instance, might be a cabin roof, rotary base cover, fire sparkling preventive device or mild steel wire mesh.

Unofficial

Clause 72 The Employer shall prevent irrelevant person to access the control room or stay in the working radius of the machine and shall bar any person to hang on, swing on, hold onto, stand on or ride on with the movable machine that is not arranged for that purpose.

In case the Employee works within the working radius of the machine, the Employer shall fend the Employee off from the danger of that machine or materials that can fall from it.

Clause 73 The Employer shall take care of the constructing machinery and equipment to ensure their good and safe working conditions as per the proper operating duration and carry out the annual check as per the type and category as designated by the Director General.

In case of the defect of the constructing machine or equipment that might cause danger, the Employer shall arrange immediate repair and keep the Employees away from using it until repair completion and resumption of safe use.

Clause 74 In case of the possibility of danger from the moving of any machine, the Employer shall install an alarm at that machine. This, for example, might be the light and sound signal for the forward or backward moving of the machine and the erection of the easily noticeable warning board(s).

**Part 2**

**Cranes and Derricks**

Clause 75 As for working with cranes and derricks, the Employer shall arrange for the employees who are the crane or derrick operators, the signal givers to the crane or derrick operators, the material holders or the crane or derrick operating supervisors to pass the trainings about their respective duties and shall arrange the trainings or reviews about the working with the cranes or derricks.

Clause 76 In assembly, test, use and repair and maintenance, the Employer shall abide by the specifications of the cranes and derricks and the operating manuals designated by the manufacturers of those devices. Lack of such specifications and use manuals shall demand the Employer to comply with the written specification or the written use manuals stipulated by the Engineer.

Unofficial

OSH Ministerial Regulation


## Chapter 8

## Temporary Freight and Passenger Elevators

Clause 77 Any temporary freight or passenger or freight and passenger elevator shall have the details of the elevator shaft, elevator cabin, constructing requirements and codes of use as per the rules, methods and conditions stipulated by the Director General.

Clause 78 Regarding the elevator assembly, installing, test, use, repair and maintenance and checks mentioned in Clause 77, the Employer shall follow the specifications of each elevator type and operating manual as prescribed by the elevator manufacturer. Shortage of the specifications or operating manual requires the Employer to obey those written versions stipulated by Engineers.

Clause 79 The Employer shall erect board(s) showing maximum weight of each temporary freight elevator and board(s) indicating the maximum load weight and number of passengers for each temporary passenger elevator within and outside that elevator. Those boards shall be clearly noticeable.

Clause 80 The Employer shall arrange the monthly check of the components and equipment of each elevator mentioned in Clause 77 in accordance with the rules and methods designated by the Director General. The Engineers shall be the supervisor of the tests. They shall also record the test time and dates and collect the test results as evidence for the labour inspector to audit those results.

Clause 81 The Employer shall make supervision to prevent any person to ride on any temporary freight elevator and shall set up noticeable board(s) indicating the passenger ban. This however exempts the installing, checks, maintenance and removals by relevant persons only.

Clause 82 The Employer shall prevent any person to ride on the roof of any temporary passenger elevator except for installing, checking, maintaining and removal purpose by relevant persons only.

Clause 83 In using the elevators under Clause, the Employer shall do as follows:

(1) To draw up the Elevator Use Regulations and attach them visibly in the area where the elevators is used; and make supervision to ensure strict compliance to those rules.

Unofficial

OSH Ministerial Regulation


(2) To fill the Employees at age of 18 years or more who have already been trained to operate elevators as the elevator operators. They shall be on duty throughout the elevator using period.

(3) To set up a stable yet sturdy roof in the area where any elevator operator works so as to ward off danger from falling objects.

(4) To have the elevators checked prior to daily use. Any damage shall be completely repaired before use.

(5) In case any elevator is not in working condition or no elevator operator is available for it, that elevator shall be switched off, locked with key, and fixed with board "Elevator Use Not Permitted" to notify the Employees.

(6) To store and prevent materials from falling down or protruding to obstruct the elevator shaft structure.

(7) To prevent any vehicle or equipment with wheels from moving during the use of elevator to carry it.

Unofficial

**Chapter 9**

**Ropes, Slings and Pulleys**

Clause 84 The Employer shall supervise the use of proper size of rope or sling with pulley groove and that rope or sling shall not be damaged, rotten, non-durable, or frail.

Clause 85 In case of existence of any point which can scrape off the rope or sling wire, the Employer shall have a roller or any other similar material to cushion that point.

Clause 86 Using ropes, sling wires and pulleys shall harmonize with the rules and methods prescribed by the Director General.

**Chapter 10**

**Temporary Elevated Walkways**

Clause 87 The temporary walk paths elevated by 150 cm. or more shall be built from sturdy materials. They shall be able to bear the traffic load as per the actual use but not less than 250 kilograms per square meter. The temporary walk path shall

OSH Ministerial Regulation


be not less than 45 cm. wide and shall have barricade fence as per the standard of the Engineering Institute of Thailand under HM the King's Royal Patronage throughout its length.

Clause 88 The Employer shall arrange the anti-slippery material(s) and supervise to ensure the traffic safety of all temporary elevated walk paths that are steep throughout the constructing operations.

## Chapter 11
## Working in Places Risky of Falling, Collapse and Tumbling of Objects

### Part 1
### Prevention to Falling from High Level

Clause 89 In case the Employer orders the Employees to work on a high level from 2 metres above the ground or building floor, the Employer shall arrange for safe scaffolds, ladder, tripod or bench as per work nature for that working.

Clause 90 The Employees working on an area steep for more than 30 degrees from the plain level and from 2 metres high shall have proper scaffolds as per work nature, life rescuing stripe or rope and safety belt together with equipment or any other similar preventive measure for working safety.

Clause 91 The Employees work in the place where they might fall or be hit from collapse of material such as working on or in the foundation pillar, electricity pole, chimney or beam from 4 metres high or work on or in a barrel, well, cylinder or any other similar object shall be provided by barrier or falling preventive rail, net, cover or any other similar preventive device that can avert the falling of the Employee or material and shall have life rescuing rope or stripe and safety belt together with equipment or any other similar preventing devices for working security.

Clause 92 The construction work with chimney or opening into which an Employee or material can fall shall have a strong cover, barrier rail(s) with height not less than 90 cm. and opaque wall(s) or rail(s) with height not less than 7 cm together with danger warning board(s).

Unofficial

OSH Ministerial Regulation


Clause 93 In case the Employee works on the building floor or constructed structure that is opened and bare and where he might fall down, the Employer shall provide safety rail as per the standard of the Engineering Institute of Thailand under the King's Royal Patronage or any similar preventing device.

**Part 2**

**Uses of Scaffolds, Ladders, Tripods and Benches**

Clause 94 Regarding uses of scaffolds, the Employer shall supervise the Employees not to:

(1) work on the scaffold when it is slippery,

(2) work on a damaged scaffold,

(3) work on a hanging or basket scaffold during raining or strong wind that might be harmful to the people working below.

In case of working on several stories of scaffolds, the Employer shall arrange danger preventive devices for the persons working underneath.

Clause 95 The Employer shall build, assemble, install and check the scaffold(s) in accordance with the regulations and methods designated by the Director General.

Clause 96 In case the Employee has to use a ladder for construction work, the Employer has to provide a robust, safe and durable ladder as per the standard of the Engineering Institute of Thailand under the King's Royal Patronage.

Clause 97 In case the Employee has to use a tripod or a bench for working, the Employer shall arrange for the supervision so that that tripod or the bench is safe, durable and solid and has a sufficient area for the Employee to stand during working.

**Part 3**

**Prevention to Collapse and Falling of Objects**

Clause 98 In case the Employee works in the area collapsible or where rocks, soil, sand or any other material can fall down, the Employer shall arrange for that pile of rocks, soil, sand or any other material to slant in angle or any other method that can prevent its collapse

Unofficial

OSH Ministerial Regulation


Clause 99 In case the Employee shall work in a collapsible pipe, channel, hollow, tunnel or well, the Employer shall have the wall(s), struts or any other preventive method constructed to avert that danger.

Clause 100 The Employer shall prevent the falling down of any material by using canvas, net or any other similar material to block or cope with it.

In case of relaying a material up to or down from a high level or from one place to another, the Employer shall make a track, shaft or using the proper and safe conveying equipment and method.

If using conveying belt, robe or sling for material transport, the Employer shall build a structure and place for fastening purpose to secure safety.

## Chapter 12
## Tunnel Works

Clause 101 The Employer shall arrange for trainings on tunnel works and danger preventive measures for the Employees before they work in the tunnel and shall hold at least one of such review or additional training per month.

Clause 102 Regarding the tunnel excavation, the Employer shall arrange Engineers with experience in tunnel and ecological engineering to design and stipulate the working methods and shall have Engineers with experiences in tunnel excavating to make supervision over the tunnel work.

With respect to tunnel excavating by explosives, the Employer shall arrange explosive experts to supervise the explosive use and explosive use volume. The Employer shall also have Engineers with experience in tunnel digging work by explosives to supervise the work and designate the danger preventive modes throughout the working period.

Clause 103 The Employer shall conform to the safety regulations and methods of the tunnel construction and working as stipulated by the Director General.

## Chapter 13
## Construction Work in Water

Clause 104 Prior to Employee's construction work in water, the Employer shall act as follows:

Unofficial

OSH Ministerial Regulation


(1) To arrange for the working plan and prevent danger that might arise from working and to attach announcements or notify Employees in writing.

(2) To make an emergency plan in response to natural disaster and to hold trainings and drills as per that emergency plan.

(3) To provide life saving equipment in accordance with the requirements of the Department of the Water Transport and Commercial Fleet or any other agency such as lifebuoy, safety belt, lifebuoy stripe, and other personal safety protective gears in the quantity not less than the number of the Employees doing the construction in water.

(4) To arrange the check of the rising and falling of the water level constantly except in the area without that movement.

Clause 105 In case of using electrical equipment for the construction work in water, the Employer shall supply and make supervision to ensure that the equipment is water, moist or vaporizing of flammable substance that might lead to electrical circuits, fire or explosion.

Clause 106 On working on the floating carriage over the water, the Employer shall arrange for:

(1) The fastening or fixing of supporting structure and the machine structure including the equipment installed on the floating carriage or scaffold securely.

(2) The walkable bridge and connecting stairs between the floating carriage and the bank or the floating carriage nearby to assure safety as necessary.

(3) The supervision to encourage safety and cleanliness of the floating carriage or scaffolds throughout the working period.

(4) The wearing of lifebuoy during the working period and if working at night, the lifebuoy shall be fixed with phosphorescent or fluorescent material.

## Chapter 14
## Removal and Demolition

Clause 107 The removal and demolition of any constructed structure requires application as per the Building Control Law and the Employer shall have the Engineers to stipulate the process, methods and supervise the working of the

Unofficial

OSH Ministerial Regulation


Employees to make safety and arrange trainings or make clarification to the Employees about the process and method of the removal and demolishing of the constructed structure before working start.

Clause 108 The Employer shall carry out the following actions with respect to the demolishing of the constructed structures.

(1) Shutdown of the electricity, gas, tap water, steam, or any other power used in the constructed structure to be demolished.

(2) Safe yet correct removal or moving of chemicals, gas tanks, flammable materials, explosives, or any other similar dangerous material off the area where demolishing to take place

(3) Moving off all of the sharp objects, glasses or other materials that can fall or easily break prior to removal and dismantling.

(4) Supply of receptacle that can contain materials which might fall down when demolishing of the constructed structure and that material receptacle shall be sturdy and large enough to receive those materials safely.

(5) Spraying of water or using any other proper method to prevent or eliminate dust throughout the working period.

In case of use of electricity, water, utilities, or any other facility during the dismantling, the Employer shall arrange preventive measures against the danger of such use.

Clause 109 In case of removal/wrecking by explosives, the Employer shall have explosive experts and engineers with experience in the demolition by explosives to be the work supervisor and stipulate the hazard preventive measures throughout the working period.

Clause 110 The Employer shall arrange for the removal of the dismantled materials off the demolishing area or store them safely.

The moving of the demolished materials in different levels shall be done by using safe method and the Employer is required to arrange danger preventive measures.

Unofficial

OSH Ministerial Regulation


## Chapter 15

## Protection to Personal Safety

Clause 111 The Employer shall arrange for and manage the Employees to use personal safety protecting gears throughout the working period as follows:

(1) To wear a safety helmet and dress shoes with rubber outsole when doing the wood or paint working.

(2) To wear a safety helmet, fabric or leather cloth and dress shoes with rubber outsole or safety shoes when doing the steel or tunnel work or assembling, installing, repairing and maintaining, lifting or carrying heavy stuffs that might cause severe danger.

(3) To put on a safety helmet, fabric or leather gloves and dress shoes with rubber outsole.

(4) To wear a safety helmet, fabric or leather gloves and dress shoes with rubber outsole when carrying out brick laying, cementing or cement surface decorating work.

(5) To wear a safety helmet, rubber gloves and rubber top boots when doing the concrete work such as cement mixing and concrete pouring.

(6) To wear a face shield or safety goggles, fabric or leather gloves, dress shoes with rubber outsole or safety shoes and chest shield.

(7) To put on a safety helmet, safety goggles, air filter mask, fabric or leather gloves and dress shoes with rubber outsole or safety shoes when conducting the cutting, removal, chiseling, pounding or boring dust-making materials.

(8) To wear ear plugs or ear muffs when doing work making noise louder beyond the restrictions mentioned in the Ministerial Regulation on Noise Safety.

(9) To take on a safety helmet, anti-toxic mask, rubber gloves that prevent chemical hazard and dress shoes with rubber outsole when doing the toxic work.

(10) To wear a safety helmet, safety belt together with life rope and dress shoes with rubber outsole when carrying out work on a suspension basket, hanging scaffold or doing outdoor work from 4 metres high or more.

Unofficial

OSH Ministerial Regulation


(11) To put on proper personal safety protecting gears as per work nature when dealing with excavating or drilling work.

Besides the equipment mentioned in Paragraph One, the Employer shall provide other appropriate personal safety protecting equipment to the Employees to the work nature.

Clause 112 The personal safety protective gears mentioned in Clause 111 shall be supplied to properly cope with the work nature and in accordance with the Industrial Product Standard or any other standard stipulated by the Director General and as approved by the Engineers or the Work Supervisor. Check and training(s) about those devices shall be carried out prior to use.

Issued on 18 September 2008.

Uraiwan Thianthong

Minister of Labour

Unofficial

Note: This Ministerial Regulation has been announced to be effective by virtue of Paragraph One of Clause 103 of the Labour Protection Law A.D. 1998 which grants authority to the Minister of Labour to issue a minister regulation that can order the employers to manage and administer the safety, occupational health and working environment for the wellbeing of the employees who carry out the construction work.

Unofficial