



Kingdom of Saudi Arabia
Ministry of Interior
General Directorate of Civil Defense

Regulation of safety Requirements, Fire Extinguishing, Monitoring and Alarm Means to Be Provided in Auditoriums, Conference Rooms, Wedding Halls, Theaters and Buildings of Similar Activities

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1st: Definitions:

The terms provided in this regulation shall have the following meaning:

1. Auditoriums:

The building or a part of building specified for lectures or holding scientific, literary political symposiums or others designed to receive more than (30) thirty persons at once.

2. Conference hall:

The building or part of building specified for holding meetings, conferences or festivals designed to receive more than 30 thirty people at once.

3. The wedding halls:

The building or part of building specified for holding weddings and parties of all kinds and to receive more than 30 thirty people at once.

4. Theater or auditorium:

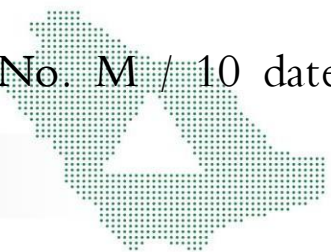
The building or part of the building designated for the performance or training on performing theatrical, dramatic performances, folklores, materials or otherwise and designed to receive more than thirty people at once.

5. Buildings of similar activities:

Every building or part of building designated for carrying out one of the activities similar to what referred to in (1, 2, 2 and 4) above, such as book fairs, handicrafts, various art exhibitions, antiquities museums .. etc. They are designed to receive more than 30 thirty people at once, provided that a separate regulation shall not be issued for them.

6. The Law:

The Civil Defense Law issued by Royal Decree No. M / 10 dated 10/5/1406H and all other relevant regulations.



7. The regulation of inspection, seizure, investigation, and penalties:

The regulation issued by His Highness, the Minister of Interior and Head of the Civil Defense Council specifying the procedures for inspection, seizure and investigation of violations and abuses of civil defense work and the penalties prescribed for them.

8. The civil defense representative:

The person or persons authorized by the General Directorate of Civil Defense or one of its centers to carry out inspections of facilities, detect and investigate violations and abuses of civil defense work in accordance with the rules and procedures specified in the relevant regulations to ensure the safety of the facility, equipment and tools, in addition to firefighting and imposing the penalties and fines specified for each of them.

9. The Competent Authority:

Means the Ministry of Interior, the General Directorate of Civil Defense, and other public authorities concerned with the facility licensing and its activities.

10. Facility official:

In accordance with “Article twenty five” of the Civil Defense Law, The official is (facility’s staff member) appointed or assigned to be in charge of all safety and security related works. He shall be considered the responsible owner at all cases with the effect of private ownership.

11. Specifications:

- a) The Saudi Arabian standard specifications, which are the specifications issued by the Saudi Arabian Standards and Metrology Organization “SASO”.



- b) International standards: Means that in the absence of the Saudi Arabian standard specifications, the specifications of the United States of America, or the specifications of the European common market countries are to be considered. Otherwise, the machine to be used is manufactured in a country other than those countries, its safety specifications shall be approved by the competent government agencies in the manufacturing countries. In all cases, a document shall be submitted proving the provision of all safety rules for the machine in the specified material or machine, in the absence of Saudi specifications.

2nd

In accordance with (Article Twenty) of Civil Defense Law, a facility subject to this regulation is not permissible to be licensed, constructed, expanded or renew its present license before the license applicant submits a technical study prepared by one of the technical offices specialized in safety work and approved by the General Directorate of Civil Defense indicating the extent of compliance with the specifications, requirements and rules contained in this Regulation. Concerning, the existing facilities at the time of issuing this regulation, a time limit of six months will be provided to implement this regulation and issued instructions. The municipal specialist shall observe that granting or renewal of the license shall be in accordance with the rules and requirements of this regulation rules.

3rd

The office prepared the aforementioned study shall be responsible before the competent authorities for the significance and accuracy of the study, and for monitoring its implementation. It is also obligated to submit a final certificate to the civil defense confirming the full implementation of the safety requirements and extinguishing means mentioned in the study approved by the civil defense. He shall also be responsible in solidarity with the license applicant, for any carelessness or negligence in this regard.

4th

The facility official is directly responsible for performing the monthly examination and periodic tests (every 3 months) for the facility itself and its equipment, as well as all safety devices, fire extinguishing equipment, monitoring and alarms for the facility, in addition to immediate repair of any malfunction or defect. Negligence or breach in this regard shall be considered severe carelessness act making its doer subject to penalties and sanctions according to law.

5th

In the case of hazardous malfunction or defect threatening lives and properties, the facility official shall close the facility or the dangerous area. His negligence or carelessness in this regard shall be considered as sever carelessness act making the perpetrator subject to legal penalties and sanctions.

6th

The facility official shall allocate a record titled as (Safety, Alarms, and Fire Fighting Record) according to the form prepared by civil defense. All the pages of record shall be sealed with the seal of the competent civil defense department or center. The record shall contain all the monthly examinations and periodic tests for equipment and means of firefighting, monitoring and alarm as well as its date, the authority in charge of the examination or test, the used equipment, tools and methods, in addition to results, repairs operations and other data. A Part of the record is also allocated to the building inspection operations, equipment, devices, electrical and mechanical installations. The record shall be kept in the facility administration office to be available for the civil defense representative at all times to pursue, take notes and recording violations and penalties.



7th

The person in charge of safety in the facility may report to the competent civil defense center for determining the date of conducting the periodic tests and execution authority in order to agree upon the proper time for the presence of civil defense representative during tests. This will be confirmed with representative's signature in the record.

8th

All male/female staff in the facility shall be trained on safety, extinguishing, rescue and first aids work in the specialized Saudi training schools or institutes approved by the General Directorate of Civil Defense or in coordination with the General Directorate of Civil Defense to provide courses for this purpose. The entity requesting training shall incur costs or its share of training costs based on the cost of one trainee. The quota of trained male/female staff against the capacity of facility shall not be less than:

From 30 – 100 persons	2
From 100 – 200 persons	3
From 200 – 300 persons	4
From 300 – 400 persons	5
From 400 – 500 persons	6

Consequently, one trained person shall be added to every one hundred persons or less which exceeding the capacity after the first hundred persons.

9th

The facility official shall be committed to direct coordination with civil defense regarding setting a plan for intervention, evacuation, firefighting, rescue, first aids and procedures to be taken by male/female staff until the arrival of civil defense teams.



10th

At least an ambulance car shall be provided to each facility. It shall be equipped with the required provisions. The male/female staff shall be qualified and trained to conduct first aids. The car shall be specified and allocated for facility service only especially at times of activity.

11th

The facility official (especially for the wedding halls) is obligated to determine the capacity of the building, especially the upper floors. He shall clarify this issue to the tenant who is responsible for the number of guests and not exceeding the specified number. The facility official is responsible for placing signboards on the walls and in prominent locations determining the capacity of the facility, and alarm that the increase in the number of people threatens the presence, impedes the evacuation and aids operations, and exposes the upper floors to cracking and slipping.

12th

The stage shall be resistant and of high-quality materials which are resistant to ignition and fire, and to be constructed according to accurate scientific and technical standards and specifications, so that its total load and the number of allowed persons shall be specified. The facility official shall be responsible for implementation and monitoring.

13th

The facility official is obliged to fix signboards according to the design approved by the civil defense to prevent smoking, prohibit placing any fire source beside the exits and escape corridors, as well as spreading safety instructions.



Chapter 2

First: Electrical installations and fixtures:

1. All equipment, electrical & mechanical services and others shall be designed and fixed in a way reduces the potential of fire and its spread in different areas in order to comply with the requirements of the Saudi Arabia Standards and Metrology No. (20) and with the general specifications issued from the Department of Public Works Public Housing No. (65).
2. All electrical devices and fixtures shall be equipped with earth terminal connection. The flexible wires shall be protected against overload and against damage.
3. All used electric devices, equipment, tools, and wires shall be made of premium type and meeting specifications and fire-resistant or inflammable due to high voltage or overload. All electrical devices and connections shall be free from any uncovered parts might expose the lives of people to electric shock.
4. Sub-Circles: The used wires shall be with size sufficient to transfer the current required for devices without over load. The capacity of any subcircle shall be less than the load estimated for the device or the estimated joint loads. The circuits that feed two loads or more shall feed only on the loads specified them as per their size according to the schedule of sub-circle available to the civil defense or the system of sub-circles issue from the Ministry of Public Works and Housing No. (09 /N Z).
5. All the electric devices and equipment and means of electrical wiring shall be installed in a technical way meeting specifications technical specialized entities.
6. The sub-circle switch and circuit breaker shall be in the reach of its users and emergency staff.
7. The means necessary for switching off all external signal lamps, banners and decorations shall be provided in a way separated from all electrical devices. Its locations shall be close to the entrance of the main building.

8. A backup light source shall be provided with independent power meeting the nature of facility, so that it will be sufficient for lighting for at least two hours in emergency situations.

Second:

Heating, Ventilation and Air conditioning Devices:

1. Heating devices:

- a. All heating devices shall meet the specifications and to be installed in accordance with the specific requirements. The sources of fuel supply with gaseous or liquid fuel shall be equipped with appropriate means of safety and rapid valve lock adjacent to the device. If the capacity of the source of fuel supply is more than (5) liters. The source shall be outside the building or being placed into a separate fire-resistant side.
- b. All safety conditions and specifications shall be met in electric heating devices; they must be installed in accordance with the instructions and requirements specified in the Saudi standard specifications for the electrical safety system.
- c. The electrical heating devices with a capacity of more than (1000) kilowatts shall be installed in separate rooms or spaces on floors separate from the rest of the building by creating a non-combustible fire-resistant set. All air ducts shall be non-combustible.
- d. The surfaces, walls, floors, and ceilings of the area surrounding the heating devices, as well as all surfaces shall be non-combustible (in the case if devices are installed in separate rooms).

2. Ventilation and Air Conditioning Equipment

- a) All ventilation and air conditioning systems must be designed and maintained in accordance with the specifications (the Saudi Standard Project), which include the design principles and requirements for the implementation of mechanical ventilation and air conditioning in buildings, and these systems must be designed in such a way as they do not lead to the spread of smoke and hot gases from one part to another in the case of redistributing the aspirated air.

- b) Loopback system shall be equipped with light device to detect smoke before redistributing air. The light device works when smoke optical density is 0, 05 nm. When detector operates, redistribution system would be closed or discharging the air aspirated outside the building. Mechanical ventilation systems shall be designed as equally independent systems for the escaping stairs, housing buildings, offices and display platforms in halls, theaters, chambers of boilers and electric transformers operating with oil.
- c) Escaping stairs and closed (protected) vestibules shall not be used as ways to ventilation systems return. In the case of the use of ceiling vacuum as a way to return, the extension limits shall not exceed the barriers of fire vertical limits unless these areas are being equipped with smoke detectors, fire alarm devices to give an early alarm of smoke leakage in order to close aspiration system.
- d) Air rotation networks shall not be installed in the barriers of fire at a height more than a meter from the ground unless being designed so that it closes in the case of fire and resist passing. Any automated closure devices shall operate under temperature degree less than (100 Celsius).

Third: Exits and Emergency Lighting

1. Emergency Exits:

- a. Sufficient and necessary emergency exits shall be provided to evacuate all facility occupants in the shortest possible time, according to the numbers and specifications set out in this Regulation.
- b. The emergency door exits shall be designated for use only in the immediate evacuation process when the building and the occupants are exposed to danger. Separate exits shall be designated for women.
- c. All the exits of emergency shall be open to the outside. All exits shall lead to the outside of the building or to location with factors of safety and security and being protected against sources of danger.



- d. All emergency exits shall be easy opening, self-recoil and be distributed appropriate for the evacuation of all parties without having to walk through the location of fire. Emergency exit shall be indicated clearly and allowing the installation of curtains or signboards on those exits to be blocked from sight. It is not allowed to install any mirrors in any way or near them in a way deceiving the public in the direction of exit.
 - e. Free exits shall be provided for each building according to the globally approved considerations and rates, according to the following elements: – The expansion of exit unit, the distance required for the corridor of one person shall be 21 inches at least.
- The rate of people flow from the exit means the number of people could exit from the exit unit during one minute and estimated as twenty five persons.
 - The time required to evacuate varies according to the different types of buildings according to the following: –
 - Buildings Type I: All buildings built of materials resistant to fire and should be evacuated during a period not more than three minutes.
 -
 - Buildings Type II: Buildings built of materials resistant to fire including soft materials and easy to combust and those should be evacuated during a period not more than two minutes and half.
 -
 - Building Type III: It is built of soft materials with fast combustion and should be evacuated during a period not more than two minutes.
 - Accordingly, the expansion of required emergency exits units shall be calculated according to the next equation:

$$\text{Number of Units} = \frac{\text{persons present in the building (capacity)}}{\text{People flow rate from the exit unit (25) * the time necessary for evacuation}}$$

* (Fractures of a unit are calculated in a whole unit)



Example: If the required is three units or more, the facility shall has more than one exit point (emergency exit) to find out the number of exit points (required exit doors shall be divided into four and add one to the output:

What is the number of emergency doors for eight units?

Answer = $4/8 + 1 = 3$ emergency doors.

- The width of the emergency exit shall not be less than two units, i.e. 42 inches, with a minimum of 100 cm.
- The number of emergency doors at any wedding hall shall not be less than two exits.

2. Lightning of exits:

- a. Emergency exits and corridors shall be lightened continuously during the presence of the public and are fed from two sources (the building main current and backup source of lighting).
- b. Backup lighting in locations and periods of time required to provide the minimum of required lighting and necessary for the exits and its corridors.
- c. Exits floors shall be fully lightened including corners and intersections of corridors, stairs, stalls and exits doors.
- d. Distribution positions of exit lighting units shall be determined to ensure lightening coverage of all corridor area without darkness in the case of disabling any unit of lighting units as lamp damage, for example.

3. Lighting sources:

- a. It is prevented to use the lighting units powered by batteries for normal (main) lighting purpose to exits, but allowing their use for the purposes of backup lighting.
- b. Using luminous, glossing or reflexive material is insufficient as alternative for main or backup lighting.
- c. Backup power sources is required to be provided for lighting in emergency situations for a period of time not less than two hours.



- d. Backup lighting batteries shall be automatically recharging from the main power energy the main and be of certified type (acid or alkaline lead). It is not allowed to use the dry batteries for this purpose.
- e. Backup lightening system shall be on automatically in the case or power cut feeding lighting units whatever the reasons of this cut.

4. Signboards for exits:

- a) Signboards of emergency exits shall be distributed on clear, highlighted and easy to identify points.
- b) In the buildings and facilities that presence couldn't see exits or its leading corridors clearly and directly, signboards for those exits shall clarify exit route. Signboards shall be in highlighted locations, easy and clear to everyone.
- c) Signboards shall be placed in clear locations. The color, size and shape of each signboard shall be chosen for exits and their routes according to the regulation of indications and signs of civil defense. So that could be seen and identified easily. It shall be with different shape and color than surrounding decorations. It is strictly prohibited to use decorations, furniture or tools reducing or weakening the vision of signboards for the exits or their routes.
- d) All Exit signboards shall contain the word (Exit) in Arabic, English and any other languages with capital, clear, and readable letters.
- e) Each Signboard shall be lightened towards outside, so that lighting at signal surface shall not be less than (50) Lux. The signboard lighting shall be in permanent white letters with green background or as provided in the regulations and references of civil defense.
- f) Any bright lightening signal shall be prohibited near the line of sight to exit signboard.

5. Conditions shall be observed to facilitate evacuation process

- a. Fixed seats:
 - The net space between the seat back and the seat behind shall not be less than 30 cm when a seat in the sitting mode. The net space between two consecutive seats shall be determined by horizontal measurement between two vertical levels.

- The number of seats within two corridors shall not exceed 14 seats.
- The number of seats accessible through one corridor shall not be more than (7) seats.
- The capacity of permanent seats row without separating armrests shall be calculated on the basis of 5 cm at least per person.

b. Stands:

- The seats of stands in buildings shall not be equipped with back trestles.
- The space between rows of stands seats shall not be less than 55 cm and not more than 75 cm.
- The number of seats within the corridors perpendicular to rows of stands seats shall not exceed (100) seats.
- The space between corridors parallel to the seats shall not exceed 11 rows.
- The capacity of seats row is calculated on the basis of 45 cm at least for each person.

c. Corridors:

Each part of assembly locations shall be equipped with seats, tables, exhibits, equipment or any other materials with corridors leading to the exits, according to the following conditions:

The width of corridor which serves 60 seats or less shall be (100) cm.

- The minimum width of the corridor shall be 120 cm when serving more than (60) seats. If the seats are at both sides. The corridor with its minimum width shall be at the far point from the exit or other orthogonal corridor or lobby, so its width shall exceed gradually in each direction (25 mm) per each linear meter.
- Each perpendicular corridor shall end to a lobby or exit. The width of the orthogonal corridor, lobby, or exit shall not be less than the width of largest corridors in addition to 50 % of the total width required for served corridors.
- The length of the blocked end of corridors shall not exceed six meters. – The corridors shall be flat or a little gradient and without grades, if the gradient level increased from (1 to 8), it is permitted to be graded.

Chapter 3

Means of Alarm, Monitoring, Evacuation and Extinguishing

1st Alarm

1. The hall, room or the building as a whole shall be equipped with fire alarm system by manual network, its switches distributed at the building entrances and the areas of services as to be confront with standard Saudi specifications if any or International specifications.
2. The building shall be equipped with an automatic alarm network that operates with smoke or heat detectors, the alarm signboard shall be installed in the reception or permanent service room (or the security officer's room).
3. Fire alarm signal shall be heard in the office of hall manager (in the building), the subsidiary rooms and halls, locations of service, bathrooms, and the location of permanent monitoring employee. Signal of fire alarm shall be banned in the main assembly hall to ensure evacuation orderly under the supervision of trained officials. The audience in main halls shall be communicated with special system powered by main and backup power in the emergency cases.

2nd Monitoring and Evacuation

1. The management supervising any facility of the facilities stipulated in this regulation shall prepare a plan for safety case, implement evacuation works and intervene for firefighting cases in agreement and coordination with the civil defense.
2. A person shall be appointed as safety supervisor for the safety of the building (safety officer). He shall be well-qualified in this area and supported by trained staff to guide the public and use extinguishing rollers and manual extinguishing devices. The safety supervisor's duties shall include the following:
 - a) Organizing evacuation operations, training staff accordingly, identifying exits to them whether the main doors or emergency exits, and how they work.



- b) Training of facility staff to carry out evacuation, rescue, aids and firefighting in addition to introducing the duties of each in the hazardous cases, and divide them into specialized groups. Each group is concerned with certain task (firefighting group – evacuation group – aids group. etc.)
- c) Training staff on how to reporting of the fire, how to use the fire alarm devices and organizing the process of evacuation.
- d) Verification of power supply cut, operating backup lighting source, making sure the closure gas sources and shutting down machines, elevators and others.
- e) Supervising the evacuation operations until the arrival of persons to assembly area outside locations of danger.
- f) Receiving civil defense and public service men and giving them the necessary data and plans facilitate their work.
- g) Keeping a copy of all plans for the building and its equipment.
- h) Making sure of not doing any unsafe work and making sure that all alarm and firefighting systems operating in a proper way. In addition to immediate repairing.

3rd Extinguishing means

A. Fire hose reels

- 1. The building shall be equipped with water extinguishing network by rollers to be distributed on the entrances and at distances not exceeding 25 meters and in the case of occupancy exceeds 50 people.
- 2. Installing fire hoses in a fixed way to be permanently connected to the water supply and designed in a way ensures the speed and eases handling the hose in any direction, therefore staff and the public can carry out the immediate intervention to combat the fire.
- 3. The diameter of fire hose shall not be less than 1 inch and shall be in conformity with the specifications set by civil defense.
- 4. The pressure in the water ejector shall not be less than 2/5 bar.



5. Hoses shall be fixed in proper, apparent and easy access location with a height not exceeding 1,50 meters from the ground. It shall be connected as a permanent source of water supply. It is preferable to be under the pressure of water and provided with fixed or are adjustable nozzle, so that can be opened and tuned easily when necessary. If hoses are fixed inside the wall or inside covered boxes, box shall be locked or linked in a way that obstructs the ease of pulling hoses. These boxes shall be referred clearly.
 6. Signboards shall be fixed to clearly show all extinguishing hoses combinations and its instructions of use.
 7. A source of water supply shall be provided to firefighting purposes at the appropriate points. The maximum distance limit shall not exceed 100 meters between any point in the building and the nearest fire faucet or any similar supply source.
 8. The firefighting networks and its extensions shall be equipped with the following:
 - Extensions shall be equipped with closing faucets of adequate number. Extensions shall be connected with a device indicating the water in the network and installed directly before the cutouts and sections in which the pressure is weak.
 - The extensions exposed to frost shall be protected by covering with insulated material (like Amiantit) or (Asbestos) and others.
 - All extensions of extinguishing network shall be painted with distinctive colored and often is the red color.
 9. In any case which water pressure is weak in the general source, a backup tank shall be available for extinguishing works. The tanks shall be constructed according to the specifications of the civil defense and in line with the location and nature of the facility.
- B. Manual Fire extinguishers:
1. Buildings shall be constructed in a manner enabling occupants to carry out preliminary procedures of firefighting by using appropriate manual fire extinguishers correspond to the potential risk. The preparation, types and sizes of manual fire extinguishers required for the site shall be estimated by the civil defense after site preview according to the actual needs.

2. The manual fire extinguishers shall be sound and put in easily identified and accessible locations at any time.
3. The manual fire extinguishers shall be according to the following Saudi standard specifications:

Extinguishing Medium	No. Saudi standard specifications
Water	0000000
Carbon dioxide	1977/63
Halon Gas (21)	1977/81
The foam	1979/124
Dry Powder	1979/125

4. All fire extinguishers shall be maintained valid for use permanently and to be examined periodically on regular basis according to the instructions of the manufacturing company. The date of examination shall be placed on the card affixed to the body of each extinguisher.

C. Automatic sprinkler network

1. Each closed facility stipulated in this regulation shall be equipped with automatic sprinkler network to suit the size of the building and the type of potential risks.
2. Automatic sprinkler network shall meet Saudi Standard Specifications for the design, installation and maintenance of automatic sprinkler network.
3. Automatic sprinkler network shall be consisting of integrated buried and apparent pipes group. The apparent part of the pipes is consisting of pipes designed (hydraulically), fixed in ceilings, and connected with sprinklers according to the stable pattern. The network or any of its parts is to be operated due to the heat resulting from fire, so water springs towards the fire area then it is controlled and extinguished.
4. Automatic sprinkler network shall be linked to automated alarm system and central alarm panel in the building.



5. It is not permissible to use outdated parts, materials, equipment or nonaccredited does not meet the Saudi standard specifications in automatic sprinkler networks.
6. The technical study prepared by the technical specialized office referred to in the second part of section II in this regulation shall include plans and drawings for how to install automatic sprinkler network. The competent administration in municipalities shall study these plans and drawings to make sure of compliance with the requirements and Saudi standard specifications.

General Texts

1. The walls and ceilings in the facility mentioned in this regulation especially enclosed ones shall be built from materials resistant to fire. The decorations, curtains and furniture shall be processed with materials resists ignition.
2. Each facility of the facilities contained in this regulation shall be equipped with a device absorbs lightning.
3. The locations of service such as kitchen, coffee room and others shall be completely far from main lounges or halls. It shall be equipped with all means of rapid intervention appropriate fort the type of potential risk.
4. Emergency exits shall be of materials resisting fire and ignition.
5. It is strictly prohibited to fix decorations with the lamps hanged with free electric wires, unless after the approval of the civil defense on the quality and duration of installation.
6. Electricity rooms or fuel tanks shall be isolated from the halls and lounges. Its walls shall be resistant to fire and shall be equipped with suitable fire extinguishing means.
7. First aids room shall be allocated in each facility mentioned in this regulation. Also, this room shall be equipped with first aids means and oxygen. A well-trained male/female nurse on the work of the aids and resuscitation shall be present in the presence of the public at the facility.

8. In cases of necessity, civil defense committees shall exempt persons from one requirement or more from this regulation regarding the facilities located in the villages and hamlets in the limits of their regional competence, provided that this exemption shall not threaten the lives and properties.
9. The general manager of civil defense may review this regulation at the beginning of each Hijri year taking into consideration the new improvements and the freedom of development and methods which make it renewable regulation and achieving its goals.
10. This regulation shall revoke all safety instructions and requirements which contradicts its content and the requirements of civil defense.

These instructions shall be the rules to be observed in auditoriums, conference rooms, wedding halls, theaters and buildings of similar activities in general. It shall be subject to the study and development to meet safety rules and means of protection in the Kingdom of Saudi Arabia.

