APD
هيئة رعاية الأشخاص ذوي الإعاقة

Emergency Evacuation Guide
for Persons with Disabilities

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Introduction

All sectors are concerned with maintaining security and safety for both staff and visitors since the concept of security and safety has become an essential element that contributes to detecting danger before it occurs, especially with modern devices that sense smoke of fire and tackle it before it spreads.

The Authority of People with Disability (APD) seeks to implement security and safety procedures to achieve its strategic direction, which aims to ensure that persons with disabilities obtain their rights and to enhance the security and safety services provided by other entities. The APD also aims to raise the level of prevention and take the necessary measures in coordination and cooperation with the relevant authorities.

Terms and Definitions

Evacuation:

The act of moving individuals from places exposed to the dangers of wars, disasters, and various emergencies (natural, industrial, military, etc.) to the nearest safe place.

Emergency:

Fire, demolition, torrential rain, storm, earthquake, or any other situation that could cause damage to or endanger the lives of individuals or public and private properties.

Person with Disability:

Every individual who has a long-term deficiency in physical, mental, sensory, or psychological functions that prevents them, when dealing with various challenges, from performing their daily tasks effectively and equally in society.

Paramedic:

A person who has received appropriate training from specialized health centers and has the knowledge necessary to appropriately provide first aid and medical care to people who have been injured or exposed to a sudden illness and/or condition in order to save their lives.

Specialist:

A person who has adequate knowledge and expertise in a particular field.

Terms and Definitions

Evacuation Partner

The person assigned to assist and accompany a person with disabilities during an evacuation in case of emergency.

Assembly Point:

A safe area with sufficient space to which the occupants and visitors of a building are evacuated to be far from danger.

Emergency Exit:

The path(s) that are passable and safe, through which people can escape from any point in the building to the outside or a safe area.

Evacuation Routes:

The designated paths to walk along from any point in a building to a safe location.

Signages:

The signboards, symbols, or distinctive icons that indicate a specific meaning.

Overview on Disability Types

Disability Types:

Mental Disability:

It is a disability resulting from a defect in the higher functions of the brain, such as concentration, counting, memory, communication with others, etc., such as Down Syndrome.

Vision Disability:

It is a severe vision loss or complete blindness.

Hearing Disability:

It is a total (deafness) or partial (hearing loss) inability to hear since birth.

Physical and Mobility Disability:

It refers to individuals with limited physical movement abilities, which can affect them negatively in their daily activities and require the use of assistive tools such as wheelchairs, crutches, etc.

Learning Difficulties:

It is a disturbance in one or more of the basic psychological processes that includes the understanding and use of written or spoken language. This difficulty may appear in disorders of hearing, thinking, speech, reading, spelling (dictation, writing, and calligraphy), and math. There is no relation to mental, auditory, visual or other disabilities, nor to the learning environment, or family condition.

Overview on Disability Types

Disability Types:

Communication Disorder:

It refers to any disorder that affects an individual's ability to understand, detect, or apply language and speech to effectively communicate with others verbally. The delays and disorders can range from simple sound substitution to the inability to understand or speak the individual's native language.

Autism:

It is a developmental disorder characterized by difficulty in social interaction, verbal, and non-verbal communication, and by restricted and repetitive patterns of behavior.

It is possible for an individual to have more than one disability type, such as having both physical and mental disabilities at the same time.

Risks in Building

Buildings can be affected by various events beyond control, including, but not limited to, the following:

- Natural disasters such as floods, earthquakes, and hurricanes.
- Intentional incidents caused by one or more individuals such as bomb explosions.
- Negligence or poor-quality materials which may result in gas leaks, electrical short circuits, or fires.

In this guide, we focus our attention on evacuation, especially for people with disabilities.

Evacuation Goals and Procedural Planning

Evacuations Goals:

The goals of the building crisis and emergency response plan are as follows:

- Evacuate buildings as soon as the fire alarm is heard or when instructions are received to evacuate by heading to the predetermined assembly points in each building.

- Form and train a crisis and emergency management team in each section as well as defining the duties and tasks of each team to serve as a general framework for the implementation of evacuation plans, rescue operations, shelter operations, and a guide for protecting individuals. This must be completed in coordination and cooperation with the General Directorate of Civil Defense and the Saudi Red Crescent Authority.

Elements of the Evacuation Plan:

The requirements for the successful crisis and emergency response depend mainly on the crisis management team and how well-trained they are at crisis management, taking preventive procedures, handling the actual confrontation, and controlling the damage. The requirements for success also depend on the available means and methods as well as the instruction manual that organizes the plan implementation.

How to Act in Case of Fire:

- The person responsible for crisis management must implement the evacuation plan.
- Break the fire alarm glass to raise the alarm.
- Give priority to persons with disabilities and facilitate their passage; take into consideration their condition and in which floor they are.
- If necessary, persons with disabilities are evacuated using blankets to a safe location.
- Make sure that staff are informed not to run, pass colleagues, or scramble to avoid any injuries.

How to Act in Case of Fire:

- Do not risk your life by returning to the affected building for whatever reason,unless authorized to do so by those responsible for crisis management.
- Persons with disabilities must be shown the way to exits during emergencies and be accompanied until they are evacuated to a safe location.
- Exits and evacuation routes must be marked with clear, illuminated signages (signboards) and arrows.
- All building occupants must be sufficiently educated so that every-one becomes supportive of the rescue team, thus reducing the potential risks that may affect anyone near or inside the building.

Duties of the Crisis Management Team:

The crisis management team is formed from the section's personnel and assigns its members to the following duties:

- Stop the work immediately and ensure everyone's safety.
- Instruct the staff of the building to evacuation routes, emergency exits, and assembly points.
- Assign sufficiently qualified individuals to assist persons with different types of disabilities.
- Provide first aid if necessary.
- Use of fire extinguisher and fire blankets, and assisting the fire, rescue, and health teams.

Duties of the Staff in Emergencies:

- Stay calm and do not panic.
- Stop the work immediately.
- Only authorized individuals must disconnect the power.
- Do not use elevators.
- Head towards the assembly point through the evacuation routes and emergency exits.
- Contact the competent authorities.

Duties of the Department of Security, Safety and Health:

- Provide the unified contact numbers of the crisis and emergency management officials and inform them in case of an emergency.
- Identify the location of the fire through the fire alarm control panel.
- Perform basic firefighting if possible, using the nearest extinguisher suitable for the type of fire (red water fire extinguisher, blue dry powder fire extinguisher, black carbon dioxide fire extinguisher), and then proceed with the following steps:

  1.Pull the pin of the fire extinguisher.
  2.Aim the nozzle towards the base of the fire.
  3.Squeeze the lever to start discharging the extinguisher.
  4.Make sure that you are not standing in a dangerous spot and that you can evacuate if the fire spreads.

- Ensure that windows and doors are closed in order to prevent the spread of fire to the rest of the building.
- Rescue the injured, transport them, and provide first aid.
- Cooperate with the specialized teams of the General Directorate of Civil Defense by guiding them to the location of the fire, notifying them of its type, and the available extinguishing devices and means.
- Keep a list of persons with disabilities in order to provide them with the necessary support during the evacuation process, according to the type of their disability.

Responsibilities and Tasks of Sections Heads and Departments Managers:

- Ensure that everyone in the building is fully aware of evacuation routes.

- Ensure that all emergency exit doors and corridors leading to them are open throughout working hours and that they are easy to open (outward).
- Ensure that all evacuation routes are obstacles-free and that they have clear signages.

Duties of Sections Heads in all Departments During an Emergency:

- Ensure that doors and windows are closed, except for the evacuation exits.
- Ensure that the power is disconnected.
- Supervise the evacuation of the section.
- Ensure contacting the competent authorities (General Directorate of Civil Defense and the Saudi Red Crescent Authority).
- Ensure the arrival of the Civil Defense specialized teams.
- Ensure all trainers, trainees, and staff of the section and the department are at the assembly point and that none of them remain in the building.

Security Duties:

- Secure the building and keep control.
- Prevent any non-specialized individuals from entering the building.
- Ensure that everyone leaves the building through the emergency exits only (a security measure) until the evacuation, census, and crisis control operations are completed and the emergency ends.
- Wait for the specialized teams of Civil Defense and Red Crescent.

The Means and Equipment Required to Be Provided Inside Buildings

Providing the necessary means and equipment to deal with disasters and crises such as, assembly points, signages, fire extinguishers, alarm devices, first aid, etc., plays a major and direct role in reducing losses.

Therefore, it was necessary to ensure the availability of the following requirements:

- Identifying the assembly points for each building.
- Accessible firefighting devices for all types of fires that can be used without delay.
- Emergency first aid boxes are well stocked and accessible.
- Adequate emergency exits and evacuation routes with clear signages that facilitate the evacuation.
- Periodic buildings maintenance and testing of water sprinkler system that operates automatically in case of fire.
- Alarm system that works with the sequential lighting system in red for people with hearing impairments, as well as a sound system for people with visual impairments. Such alarms should be linked to water sprinkler systems distributed throughout the building to reduce the risks.
- Transportation equipment for individuals with physical and mobility disabilities.

Simulation of Emergency Evacuation Plan:

- Coordinating between the competent and concerned authorities, such as the General Directorate of Civil Defense and the Saudi Red Crescent Authority to deliver training courses on the procedures for evacuating people with disabilities and the preparation of an emergency plan for implementation using early warning points. As well as practice drills to monitor the reaction of the crises management teams and the occupants of the building.

Evaluating the Outcomes:

- Providing a performance analysis and evaluation of the crisis management team to improve weaknesses and gaps in implementation to prevent a future recurrence.

Preparing People with Disabilities for Emergencies

People with disabilities or any special needs that may affect their ability to cope in an emergency should be trained to follow the steps listed below in order to be prepared in an emergency:

- The Civil Defense gives priority in providing its services during emergencies to the people who need them most, which means that the people with disabilities must be prepared and familiar with the use of medical supplies or backup power systems when necessary.

How will an emergency affect people with disabilities?

- People with disabilities must talk to specialists about the types of supplies that they may need.
- Develop a precautionary plan if any accident occurs.
- Develop a personal support team to assist them in case of an emergency (evacuation colleagues), and they should be regularly present in the area of residence or in the work environment.
- Share and collect the contact details of the evacuation colleagues to communicate in case of an emergency.
- A person with a disability should not rely on one person since they may not be able to contact them or may not be available at the time of an emergency. Thus, it is important for his support team to include several people.

- Evacuation colleagues can help in preparing for an emergency by helping people with disabilities assess their home or work environments to make sure they are safe and suitable.
- Practice the evacuation plan.
- Develop a backup plan for communicating with the evacuation colleagues in case the internet and phone lines fail, phone battery runs out, or is broken, forgotten, or lost.
- Make sure all special supplies that a person with a disability may need are available.
- It is recommended that people with disabilities wear a medical alert tag or bracelet to identify the type of disability or health condition.
- Keep essential supplies in the personal protective bag in case of an emergency.
- If a person with a disability is traveling, he\she must inform the hotel manager or one of their representatives of his\her needs in case of an emergency.
- Hotels must be supplied with emergency equipment designed to make evacuation safe for everyone, including people with disabilities.
- If a person relies on a dialysis machine or other equipment that may not work in an emergency, they should be aware of communication procedures in advance.

Self-protection in case of earthquake

- If you are using a walker or wheelchair, lock the wheels and cover your head with both hands to protect yourself.

- Bend over and cover your head and neck as best as you can until the shaking stops. If you have hearing loss, make sure you have a way to find emergency warnings, information, and advice.

- If you use a cane, drop it and crawl until you reach a solid object, such as a table, and hide under it. Cover your head and neck with one hand while holding onto the table leg with the other.

- Keep your cane near you so it can be used when the emergency is over.

Emergency Evacuation Plan

In general, persons with disabilities are no different from anyone else in the way that they prefer to depend on themselves during evacuation. The ability to make adjustments that are compatible with different types of disabilities depends on training persons with disabilities to make the best use of such adjustments. In order to achieve this, we need to define the minimum requirements, which is challenging, as well as develop the plans, how to implement them, the budget, requirements, precautions, and maintenance. These requirements include the following:

- Security and safety regulations in the Kingdom of Saudi Arabia require that all buildings ensure the safety of staff and visitors.
- All the staff who use the building must be fully aware of the evacuation procedures and practice evacuation periodically.
- People with disabilities must be trained on the evacuation plan.
- Responsible persons and building managers must take the proper steps to evacuate people with disabilities. They must also ensure their right to independent access and an evacuation plan.
- People with disabilities must be informed in advance that elevators may be unavailable in an emergency and that other evacuation methods, such as stairs, may be used.

People with Physical and Mobility Disability

- People with physical and mobility disability must be evacuated using evacuation chairs or vertically by using a stair-lift. If these options are unavailable, or not in operation, it may be necessary to carry and evacuate the person with a disability.
- Provide appropriate handrails and information about the fire.
- It is worth noting that evacuation from the building within two to three minutes may not be possible for people with physical and mobility disabilities, and it may be advisable to explain alternative evacuation methods to reduce damage.
- The level of fire protection system available and the division of fire alarm zones inside the building will help provide sufficient time to facilitate the evacuation of persons with disabilities.

Electric Wheelchairs:

- The method of evacuation for most wheelchair users is to use chairs intended for evacuation by stairs or vertically by using an evacuation lift. If these options are not available, or not in operation, it may be necessary to carry and evacuate the person with a disability.
- Persons using electric likely to require more assistance when evacuating the building, and it is wise for the person in charge or the building manager to facilitate the independent evacuation of all other groups of persons with disabilities in order to ensure that there is sufficient staff to assist this group.
- Electric wheelchairs must remain in the building if there is no evacuation lift.
- Evacuation chairs must be provided.

Developing the Plan with the Participation of Persons with Physical and Mobility Disabilities:

When attempting to evacuate a persons with physical and mobility disabili-ties or using an electric or manual wheelchair, the following information must be obtained:

- The availability of evacuation chairs.
- The degree of fire fragmen-tation inside the building and the exact location of the
- Possible means of using the stairs.
- The availability of evacuation colleagues.
- The possibility to use elevators.

Questions to Be Asked During the Interview Include the Following:

- Is it possible to walk with or without assistance down the stairs?
- How far can you walk without assistance?
- How many people will you need to help you?
- Can handrails be used to help you evacuate?
- Is your wheelchair electric or manual?

During this process, some people will decide that the building's systems can help facilitate their evacuation, while others will decide that they need additional help from one person or more.

Persons with Visual Disability

Persons with visual impairments are assisted by providing evacuation instructions in braille or audio recordings. It should be noted that most persons with visual impairments will be able to use these instructions and will not have any problems leaving the building during evacuations.

Information About the Instructions:

People with visual disabilities such as blindness and low vision due to severe impairment cannot read the fire evacuation instructions that are available in most buildings. Therefore, they must be available in braille, large font size, or audio recordings in elevators or on safety instructions and signage. It may be useful to provide a tactile map of evacuation routes and provide orientation training for visually impaired staff working in the building, so that they are more aware of the evacuation options.

Maintaining the Safety of the Roads:

Some simple measures can be taken to facilitate the evacuation of persons with visual impairments (e.g., avoid using stairs in evacuation routes).

Developing the Plan with the Participation of Persons with Visual Disabilities:

When developing a plan with a person with visual impairment, the following information must be obtained:

What type of alarm system is available?	Are the evacuation routes clearly defined?	Are there enough instructions?
Are fire instructions available in accessible formats?	Are there signages on the evacuation stairs?	Are there handrails on the evacuation staircase?

People with visual impairments must be asked the following questions:

- Do you work alone in the building or as part of a team?
- Do you work outside working hours?
- Can the alarm be heard?
- Do you know the locations of all the evacuation routes?
- Can you walk through the evacuation routes without assistance?
- Can you walk around the building without assistance?
- Can the evacuation instructions be read? If not, what form do you prefer?

Persons with Hearing Disability

Persons with hearing disabilities need to be informed if an evacuation has been announced. While they cannot hear any information or evacu-ation announcements through audio-only alarm systems, there should be sound enhancement systems inside the building, such as a hearing loop or a radio paging receiver.

The preferred options for alerting persons with hearing disabilities of an emergency and that the building needs to be evacuated are the use of paging systems and light alarms as part of the fire alarm system.

If the above is not possible, there are a range of other assistive means to provide such information.

Required Information:

When writing an evacuation plan for people with hearing disabilities, obtain information about the availability of any of the following devices and services:

- Visual alert system
- Office internet
- Team members
- Text messages
- Telephone network - text telephone
- All pagers and other equipment should be tested regularly to ensure they are working.

Staff Training:

- Other staff members can help alert persons with hearing disabilities that they need to leave the building.
- Security and safety staff should not expect that a voice call will be sufficient and should be trained to inspect all areas of their responsibility, such as individual offices, libraries, toilets, and changing rooms, provided that it is safe for them to do so.
- Staff should be aware that when a person does not react in a logical way during an evacuation, they may not have heard the alarm and it is unlikely that yelling louder is the solution. It may be necessary to walk directly to the person and explain what is happening with signs or even a written note or pre-written short instructions.

Fire Instructions:

We must also be aware that many people with hearing disabilities face challenges with the spoken language; It is therefore important to provide simple written fire instructions as well as illustrations to sup-port the written information. People with hearing impairments may prefer to have instructions explained to them through an Arabic sign language interpreter. Moreover, there are additional points to consider when writing an evacuation plan for persons with disabilities.

Developing the Plan with the Participation of Persons with Hearing Disabilities:

When developing a plan with a person with Hearing impairment, the following information must be provided:

Systems available to inform people with hearing impairment of an evacuation, such as light alarm, paging devices, personal communication...etc.

Technical operation of the fire alarm such as how to set off the alarm, how to contact the control room, etc. Make sure that people with hearing impairment are aware of evacuation procedures such as where to go, alternate routes, etc.

The Following Questions Must Be Asked:

- Do you work alone in the building or as part of a team?
- Do you work outside working hours?
- Can the alarm be heard?
- Do you have a phone number?
- Do you have an e-mail?

Signages:

Requirements:

- All signages must comply with the requirements below.
- Signages indicating permanent rooms or spaces should be placed on the wall and should include tactile letters, numbers, and symbols.

Types of Signages:

- Regulatory Signages: such as prohibition and mandatory signages.
- Warning Signages: such as caution signages that indicate danger.
- Identification Signages: such as rooms, titles, names, or numbers.
- Directional and Informational Signages: related to the work areas.

Exception: Building directives and other signages that are temporarily placed are not required to comply with these requirements.

Signages should be available in alternative formats and designs, including braille and the use of big font size.
The following accessible facilities and elements are identified by using the International Accessibility Code:
Parking areas for persons with disabilities.
Accessible passenger loading zones.
Accessible obstacles-free ramps to serve the building entry.
Accessible entrances when not all are accessible (It is preferable that inaccessible entrances have directional signages to indicate the path to the nearest accessible entrance for people with disabilities).
Accessible phones, lifts, devices, and exit means.
Rescue assistance areas.

Technical Requirements:

Location, Rooms, and Spaces:

It is preferable that permanent identification signages be placed on the wall next to the latch side of the entry door to rooms and spaces. It is also preferable that the room identification signages be placed at 150 mm from the door jamb, with the centerline placed 1400 mm above the completed door. Where there is no available wall space next to the latch side of the door, signages should be placed on the nearest adjacent wall, preferably consistently located throughout the facility.

Location and Staircase:

Within enclosed staircases, tactile numbers should be placed on the latch side of the entry/exit door at each floor level. It is preferable that tactile floor level numbers be placed within 150 mm of the door jamb and at a consistent height of between 1350 and 1500 mm above the floor.

Location and Decision-Making Points:

Signages at decision-making areas should preferably be placed along the access road. For example, at intersections of routes, stairways, elevators, and escalators.

Overhead Signages:

Overhead signages should not pose any threat and be compliant with the interior and exterior requirements.

Maximum Viewing Distance (mm)	Maximum Character Height (mm)
600	200
3600	150
2500	100
2200	75
1500	50
750	25

It is preferable that identical copies of the signages be made and placed on the walls adjacent to the places where the overhead signages are placed. It is also preferable to make copies of overhead signages that are placed behind the counters and to be placed so that the centerline is placed at 1400 mm above the floor in a free space area. Moreover, the overhead signages should be seen from standing or seated position.

Case and Style: Using Arabic numbers on the signages.

Proportions of the Characters: Characters on the signages should have an aspect ratio of 5:3 to 1:1 and have a stroke-width-to-height ratio of 1:5 to 1:10.

Height of the Characters: It depends on the maximum view distance of the characters.

Finishing and Contrasting:

It is preferable to use a low-gloss or other type of glare-free finishing on the characters, symbols, and backgrounds of the signages. Characters and symbols should contrast with their background and be either light characters on a dark background or vice versa.

Tactile Characters:

The tactile characters are preferably be raised at least 0.8 mm, with no sharp edges, be between 16 and 50 mm heigh, and include letters written in braille.

Clear Floor and Ground Surface:

A tactile signage must allow a person to approach the signage within 100 mm without encountering any protruding objects in the door swing area.

Illustrations (pictograms):

The illustrations should be accompanied with a corresponding visual and tactical description and be placed directly below the illustrations. Such Illustrations should be a minimum 150 mm in height, and it is preferable to provide a clear wall area around the tactile signage of at least 75 mm.

Illumination:

All signages must be illuminated with a minimum of 200 lux.

Audible Signages:

(infrared and digital) that are readable by persons with a visual impairment using a receiving device may be the sole orientation aid. Audible signages should duplicate information seen visually into spoken form. Such signages could include street and building signages, visual pedestrian traffic signals, and for interior wayfinding and information systems.

Information:

Information guide signages and other evacuation guidance systems should be presented vertically or horizontally at an angle and be approachable and accessible from a standing or seated position. There should be adequate space for movement and clear space adjacent to the information guide signages.

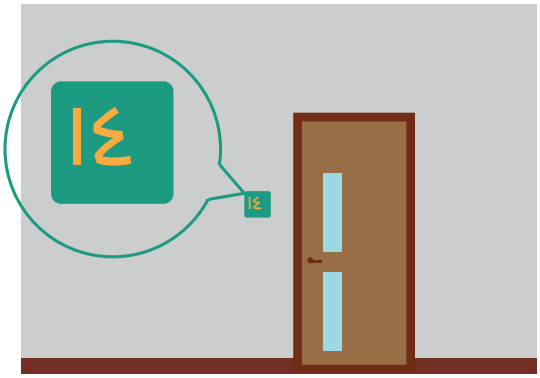
Comprehensibility:

Visual symbols should be used in written instruction signages to eliminate confusion for people with limited language and reading abilities. Color coding can strengthen messages when used as a coherent and consistent system throughout the facility.

Directional signages:

Directional signages should be concise, have as few instructions as possible, and use simple language. Explanatory symbols should be clear, straight to the point, and not highly stylized.

Color Contrast on Signages



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Other Considerations:

- Protruding and overhead objects.
- Pedestrian sidewalks, street sidewalks, routes, and roads.
- Vehicle parking.
- Passenger drop-off areas.
- External ramps.
- Entrances.
- Elevators.
- Inclined and vertical platform lifts.
- Doors.
- Suitable toilets.
- Changing Rooms.
- Gates.
- Public phones.
- Emergency exits.

Public Address Systems (PA)

Implementation Requirements:

- PA systems must comply with the following requirements:

Technical Requirements:

- **Location**: Public address speakers must be placed on the ceiling and be compliant with the items related to both indoor and outdoor locations. PA systems should provide sound coverage in the required areas, such as corridors, meeting room areas, amusement and entertainment facilities, educational facilities, and common use areas.

- **Sound Range**: Public address systems should be placed so that information is directed to key locations only where background noise is at a minimum.

- **All-Point Call Systems**: All-point call systems should only be utilized for firefighting and emergency information only.

- **Paging Systems**: Paging systems for staff and other key individuals should have a low volume and be broadcast from locations where such people are likely to be present.

Information Systems

Implementation Requirements:

- Information systems, such as information delivery venues and video-delivery and display devices, must comply with the following requirements:

Technical Requirements:

- **Video Display Devices**: The same information that is provided to beneficiaries, clients, or customers through video display devices, should be available in an alternative format, such as audio presentation, braille, or large-text print, where the font size should at least be 16.

- **Interactive Devices**: Interactive information systems used by beneficiaries in facilities, such as touch-screen video displays, keypads, or electrical switchboards, should be placed at a height suitable for use by a person in a seated or standing position.

- **Control Tools and Operating Mechanisms**: Buttons that provide access to the public information system should be in a color different from the background color, and they should contain tactile numbers and symbols.

- **Design**: Labels and descriptive information should be at a height above the ground for accessibility from a seated or standing position.

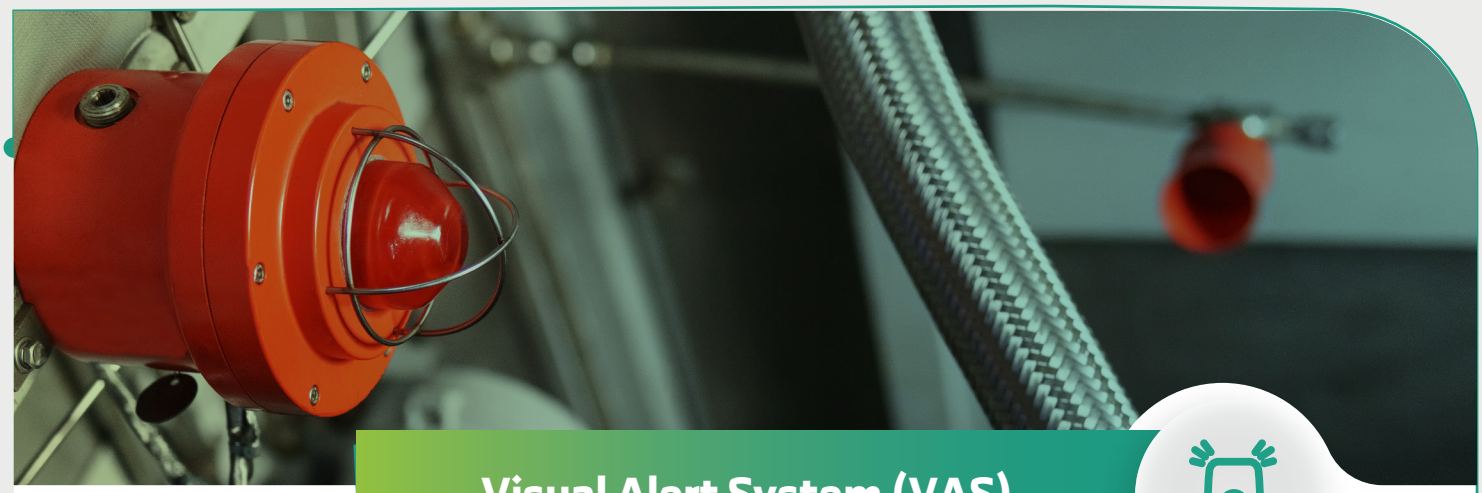
Assistive Listening Systems (ALS)

Implementation Requirements:

- ALS must comply with the following requirements:
- Audio communications tools should be available for use in the following public facilities where audible communication is central to the use of the space, such as: theatres, concerts, meeting rooms, study halls, etc. The listening system must be permanently installed in places with a space of more than 100 square meters, accommodating at least 50 people and containing loudspeakers.
- The listening system should be permanently installed at other assembly areas, or there should be enough electrical outlets or wiring to support a portable assistive listening system.
- A minimum of 4%, but no less than two of the total number of seats, must have receivers available.

Implementation Requirements:

- General: Induction loops, infrared systems, and FM radio frequency systems are all acceptable types of assistive listening systems for individuals who have hearing loss.
- Location: Fixed seats with access to assistive listening systems must be within 15 meters of the stage or playing area and must offer a clear view of the same.
- Signages: The availability of assistive listening systems should be pointed out with signages that comply to the requirements.



Visual Alert System (VAS)

Implementation Requirements:

- Visual alert must comply with the following requirements:
- Visual alert devices must be installed in each of the following facility areas: (restrooms and any other common use areas among beneficiaries, such as meeting rooms, hallways, lobbies, etc.
- Visual alert signal devices should be integrated with the alarm system inside the facility.

Technical Requirements:

- **Location**: Visual alerts should be attached to audio alarms and should be placed at either 2100 mm above the floor or 150 mm below the ceiling, whichever is lower.
- **Visibility**: When installing a visual alert device or visual signal device in any area, space, or hallway, it must be placed 15 meters from the signal on the horizontal surface, as well as in large rooms and areas that exceed 30 meters across, without obstructions, and extend to a height of 2000 mm above the floor, such as meeting rooms. Visual alert devices may be placed around the room perimeter, spaced a maximum of 30 meters apart, instead of hanging the devices on the ceiling.
- **Lamp**: Visual alerts and signals should include neon lamps or equivalent.
- **Color**: The color of the visual alert should be bright, unfiltered white, or clear filtered white light.

- **Pulse Cycle**: The maximum pulse duration should be two-tenths of a second (0.2 secs) with a maximum cycle activity of 40 percent. The pulse duration is defined as the time interval between the first and last points of 10% of maximum signal.
- **Intensity**: The intensity of the visual alert signal should be at least 75 candelas (cd).
- **Flash and Flash Rate**: The flash pulses rate should be at least 1 Hz and maximum 3 Hz. The visual alert devices should be synchronized to flash in unison with flash pulses rates set to minimize the risk of triggering an epileptic seizure.

Other Considerations:

- **emergency exits, fire evacuation, and rescue assistance areas.**

Emergency Exits, Areas of Rescue Assistance & Fire Evacuation

Implementation Requirements:

- In facilities, or parts of facilities required to be accessible, accessible exits must be provided with the same minimum quantity required of exits by the Kingdom of Saudi Arabia Building Code. The minimum number of rescue spaces to be provided in each area of rescue assistance should comply with this guide. A horizontal exit that complies with the requirements of the Kingdom of Saudi Arabia Building Code will serve to fulfil the requirements of the rescue assistance area.

Technical Requirements:

- **Emergency Warning Systems**: Emergency warning systems should include both audible alarms and visual alerts that comply with the requirements.
- **Identification Signages**: Exits for persons with disabilities must be identified using signages that comply with the requirements.
- **Areas of Rescue Assistance – Accessible Route**: Areas of rescue assistance should be made accessible to comply with the requirements.

- **Areas of Rescue Assistance – Rescue Spaces**: Rescue assistance areas should provide a floor space of 850 x 1400 mm for anyone not carried by ambulances. Designated rescue assistance waiting areas should be located next to the main travel path, away from the swing area of the door, and away from the edges of stairs. Rescue assistance areas should also be separated from the floor area where the fire is located using a fire-resistant material at a minimum equal to that required for an exit. Moreover, they should also be serviced directly by an exit or a fire-rated elevator and be designated as areas of rescue assistance for people with disabilities on the facility plans and within the facility. In building with more than three stories, areas used for rescue assistance should be protected from smoke.

- **Areas of Rescue Assistance – Communication System**: Areas of rescue assistance should include a two-way audio communication system to be used between each rescue assistance area, the central alarm location, and the control facility. The communication system should be different in color from the surrounding environment, have an audible signal that can be detected by persons with visual impairments, and have a way to control the volume.

- **Areas of Rescue Assistance – Signages**: Rescue assistance areas should be identified with a signage that reads: "Area of Rescue Assistance", which includes international symbols for persons with disabilities and be placed on all evacuation maps. The location of rescue assistance areas should be identified in the evacuation steps documents, and evacuation maps should be available in alternate formats.

- **Fire Evacuation Maps for People with Disabilities**: fire evacuation maps for people with disabilities should be available at strategic and decision-making locations throughout the whole facility.

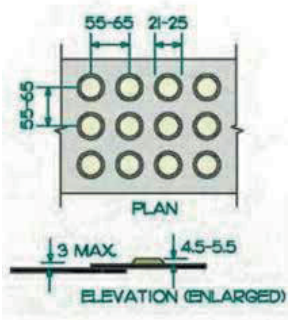
Detectable Warning Surfaces

Design Considerations:

- Detectable warning surfaces are considered integral to the safety and freedom of movement of persons with visual impairments. The change in texture or color will warn all pedestrians of potential dangers, such as crosswalks, stairs or edges that may cause slipping at raised sidewalk locations. The placement of detectable warning surfaces should be consistent throughout the whole facility, the transition area between surfaces, and should not constitute a tripping and falling hazard.

Technical Requirements:

- Contrast: Contrasting colors should be used to differentiate detectable warning surfaces from adjacent surfaces.
- Texture: Detectable warning surfaces should be slip-resistant.
- Size of the Truncated Dome: Detectable warning surfaces should include truncated domes with a height of 4.5-5.5 mm above the base surface. Truncated domes used on detectable warning surfaces should have a base diameter of 21-25 mm.
- Spacing of the Truncated Dome: Truncated domes used on detectable warning surfaces should be organized in a regular pattern that has spacing of 55-65 mm, measured from center to center of the truncated.



Detectable Warning Surfaces with Truncated Domes

Other Considerations:

- Protruding and overhead objects.
- Pedestrian sidewalks, street sidewalks, routes, and roads.
- External ramps.
- Escalators.
- Curb cuts.
- Vehicle parking.
- Passenger drop-off areas.
- Moving walks.
- Overhead and protruding objects.
- Drinking fountains.
- Handrails.
- Color and texture.

Card Access Systems and Security & Safety Systems

Design Considerations:

- Security is an important issue for all users of the facility. However, for people with disabilities, they are exposed to a higher degree of vulnerability to injury, therefore, security is required. Security can be promoted by adequate lighting and accessible devices. In individual washrooms, an emergency signaling device should be placed to facilitate a call for help in the case of a fall or injury. Card-access systems should be designed to be operated by people of varying abilities, including those with poor manual dexterity, poor eyesight, or difficulty using their hands. Heat-sensing activation buttons should not be used, as they are indistinguishable to a person with a visual impairment.

Implementation Requirements:

Card-access systems as well as safety, and security systems should comply with the following requirements:

Technical Requirements:

- **Height of Placing Location**: Security system devices should be placed on a wall, positioned 900-1000 mm above the floor or ground, and adjacent to the door they serve. These devices should also be out of the way of the door swing and be provided with interactive access, security, and safety devices.
- **Contrast**: Contrasting colors should be used to differentiate security devices from the surface on which they are placed.

- **Signaling**: Security systems that use signals to notify users should incorporate both visual signs and aural tones.

- **Card Access Systems**: The use of reading systems that require only cards to be placed close to the activation device is more desirable than the use of cards that require insertion into the device. Where card insertion systems are used, the slot should be illuminated or color contrasted from the mounting plate, and it should have beveled edges to guide the placement of the card into the slot. These systems should also include a tactile graphic symbol that surrounds the surface and describes the purpose of the card and how to use it. Cards used for access systems should have a distinctive color and texture or have letters and graphics embossed on one side.

- **Keypad/Encoded Systems**: Encoded entry systems and exit systems such as keypads, should include raised buttons that include tactile numbers or letters.

- **Intercom Entry Systems**: Intercom entry systems should include both audible and visual features to facilitate internal communication.

- **Illumination**: Illumination levels of card access systems and security and safety systems should be a minimum of 200 lux.

- **Telephones**: An accessible public telephone should be in close proximity to card access systems and security and safety devices.

Other Considerations:

- Anthropometric Data.
- Pedestrian sidewalks and street sidewalks.
- Passenger drop-off areas.
- Entrances.
- Elevators.
- Inclined Platform Lifts.
- Routes and roads.
- Doors.
- Toilets.
- Offices, meeting rooms, and work areas.
- Controls and operating mechanisms.

هيئة رعاية الأشخاص ذوي الإعاقة

Thank you

APD–KSA