

Standard and Technical Specifications of the Security Systems
of Law No. 12 of 2016 and the Procedures Manual of the Implementing Regulation
1/2018

Version No: 4.0

Release Date: 14/02/2022

Version Notes: updating the presentation of requirements, and adding some specifications and standards to the systems to be approved

Section 1: Technical Specifications and Requirements

First: Analogue Systems Specifications:

1- Cameras

S.N	Requirements	Remarks
1	Cameras shall be colored.	
2	The resolution of cameras shall not be less than Full HD1080p on the analogue system.	
3	The color scheme must be compatible with the PAL color scheme adopted in the UAE.	
4	The signal-to-noise ratio must not be less than 48 dB.	
5	Cameras shall be visible and not hidden. SIRA approval is required for hidden/covert cameras.	
6	Cameras shall intended for security applications only and are manufactured to work for extended periods without interruption.	
7	Outdoor cameras shall be of at least IP66 rating, or to be contained in special housings not less than IP66 rating. It should be suited to the Gulf region environment, i.e. high temperatures, humidity and dust.	
8	It is required that any camera facing a natural or artificial light source, whether directly or reflected from polished surfaces, shall be a Wide Dynamic Range (WDR) camera, with at least 110 dB gain ratio, or the equivalent.	
9	Auto Iris shall be used for sites where there are changing lights conditions.	
10	IR Cut Filter is required with the ability to self-switch to monochrome night imaging when the visible light disappears.	
11	Cameras installed at height of 4 meters and above shall have remote zoom and focus ability.	
12	Cameras fitted with audio recording capabilities are prohibited and cannot be used unless permission obtained from SIRA.	

2- Recording Devices:

S.N	Requirements	Remarks
1	Only digital recording devices are to be used.	
2	The recording accuracy shall not be less than Full HD1080p.	
3	The live streaming resolution should not be less than Full HD 1080p in single-display mode of a single camera. In case of multi-display mode, the live streaming resolution should not be less than 2CIF for each camera.	
4	The recording device should have a connection to the internet networks.	
5	They must be able to do the three basic functions simultaneously: (1) Live viewing; (2) Recording; and (3) Playback with the performance of any of these functions is neither impaired nor adversely affected.	
6	The live streaming shall be at least 25 FPS per camera.	
7	Copy feature shall be provided for some or all of the recorded clips and for any required period whether for one camera, or a set of or for all cameras connected to a recording device, with ability to convert them into standard storage media format, enabling playback using a standard player.	
8	The maximum period for transmission of the recorded video shall be ratio of 1/10 of the time of displaying the same recording at the normal speed.	
9	Effective and efficient search tools shall be provided to facilitate access- desired clips. Such tools shall include the search through the compound selection for both date and time specifying the cameras included in the search. Search results for all cameras included in the search are displayed simultaneously. Fast and slow viewing, with progressive and reverse time directions, shall be provided.	
10	Continuous and non-continuous recording shall be provided (non-continuous recording is associated with a specific event such as detection of motion or a signal from an external device such as intruder alarm sensors). In the case of non- continuous recording VMD, the device shall be able to record at least ten (10) seconds of the footage before and after the event, applicable to all cameras connected to the recording device can be operated on individual cameras.	

11	The minimum recording setting of non- continuous recording VMD shall be at a rate of not less than 70% of the day per camera, and not less than 10 frames per second for each camera and not less than 31 days.	
12	The recording devices must be computed with 20% extra capacity.	
13	The device shall be compatible with the external storage devices that are added to increase the total storage capacity.	
14	The device shall be able to display the name of the camera and the real time and date clearly without affecting the camera view. (The system should preferably support the Arabic language). The camera position name should be clearly indicating the name of the location with no vague or ambiguous use of symbols.	
15	The device shall have effective feature of automatic self-recording in case of restarting the device after shutdown for whatever reason (mistake, servicing, maintenance, or system fault... etc.). Such feature shall be effective even if the device has not shutdown properly.	
16	Only variable bit rate feature shall be enabled without setting a maximum speed of transmission. Fixed bit rate is not accepted.	
17	Software Development Kit (SDK) shall be made available and to be provided to SIRA upon request.	
18	It shall be compatible with ONVIF 2.0 standards.	
19	It shall support live streaming through the Real Time Streaming Protocol (RTSP).	
20	It shall support the Central Time feature (Network Time Protocol (NTP).	
21	It shall support the feature of sending an alarm in case of storage disk failure.	
22	It shall support a warning feature if the hard drive is full in case of overwriting the data is failed.	
23	It shall support sending a status notification when recording is turned On and Off.	
24	It shall support sending a status notification of changes in the recording schedule.	
25	It shall support sending a warning notification in case of the interruption or malfunction of the VSS camera.	
26	It shall support sending a status notification of a user login to the device with identification of the user.	
27	It shall support sending a pulse signal that the device is running.	

28	It shall be able to recognize and store a storage media compatible with the Windows operating system, with its various capacities.	
29	Recording files shall be in standard formats that can be viewed directly on the multimedia player software available in Windows operating system.	
30	In the case of recording file formats for the system or factory settings or that are encrypted or non-standard, software for viewing them shall be provided on computers running the Windows operating system.	

3- Monitors:

S.N	Requirements	Remarks
1	All monitors shall be of high operational specifications to be suitable for continuous operations without interruptions for a period not less than three years.	Monitors must be designed for continuous work 24/7 - 365 days.
2	The monitor's resolution should not be less than Full HD 1080p.	
3	The resolution of monitors must be at least a Full HD1080p and shall have PAL color system.	
4	Aspect ratio should be taken into consideration for the images and scenes displayed so that they match. Images and scenes with a 4:3 ratios shall be displayed on a monitor with the same aspect ratio. The same shall be applied also to images and scenes with 16:9 ratio and other standard ratios. In addition, images and scenes must be displayed on monitors that have similar aspect ratios.	
5	Monitors must be specific to surveillance and not television screens.	
6	At least two monitors must be available to each security systems operator, the size of each shall not be less than 21 inches.	
7	Wall monitors must be provided in the control rooms.	The image size of each camera should not be less than 12 x 6.7 cm in the display monitor.
8	The number of monitors required for displaying cameras' imaging shall be calculated with taking into account critical and normal cameras	As described in the following paragraphs No. 9,10
9	Monitors must be provided to display all cameras feeds.	An exception is for the establishment that do not require the provision of a control room and where the number of cameras is less than 64 or the number of recording devices is less than 4, and where one monitor can be provided with a KVM switch.
10	Monitors at Workstations <ul style="list-style-type: none"> • The monitor should not be less than 21 inches. • For each workstation, there must be at least 2 monitors. The aspect ratio of the display on the monitor must be compatible with the aspect ratio of the capturing view of the camera (4:3, 16:9, 16:10).	
11	Critical cameras imaging must be displayed in the central area of the full wall monitor continuously, including cameras on entrances, reception, help desks, passenger's drop-off areas, elevator lobby, staircases in the main floors, main lobby and any other cameras	

	deemed as important by the security officer or as per the instructions of SIRA.	
12	Standard cameras imaging must be displayed in the terminal areas of the full wall monitor in the form of sets of serial cameras, provided that the total cycle time does not exceed 60 seconds and the number of sets does not exceed 6 sets. Consequently, the serial cycle returns to the first set of cameras.	("set" is a matrix of different cameras arranged to occupy the display space on the monitor).
13	<p>Wall Monitors</p> <ul style="list-style-type: none"> • The thickness of the outer frame of wall monitors shall not exceed 4 mm. • Wall monitors shall allow the control of the display modes (number of cameras to display). • Wall monitors shall allow the display of data and maps. 	

4- Connectors:

S.N	Requirements	Remarks
1	When using coaxial cables to transmit the analogue signal to the VSS cameras, these cables must be 75 Ohm in impedance (such as RG59, RG6, RG11). they must be completely made of copper.	
2	When using coaxial cables to transmit the analogue signal from VSS cameras, termination connectors must be 75 Ohm impedance. They must be high quality Crimping Type BNC.	
3	When using Twisted Pairs to transmit the Balanced Signal or to transmit the control signal to the PTZ cameras through the serial port. They must be made of copper and not less than CAT6.	
4	All connectors must be kept safe and away from tampering, manipulation or unauthorized connection.	
5	High and good quality cables and connectors must be used.	
6	The good appearance of the connectors should be taken into account. Visible wiring and connectors should be avoided whenever possible.	
7	The protection of wiring, plastic pipes to be used for indoor connectors and metal pipes specially designed for outdoors to be used.	
8	The connectors must be numbered, named and labelled at all ends of the wires.	
9	All plans, drawings, charts, designs, devices, schedules, names tables, and wiring schedules shall match the devices that are actually installed.	
10	It is prohibited to use wireless communications except with the prior written approval from SIRA.	
11	International engineering and technical standards and conditions must be followed with regards the extension, installation, numbering and management of connectors.	

5- Network:

S.N	Requirements	Remarks
1	When connecting to a digital network for any reason, the network recommendations and requirements must be taken into consideration.	
2	An independent private network dedicated only to security systems must be established and installed.	
3	The network must have the characteristics of sustainability and abundance to avoid single main breakpoints that are irreplaceable.	
4	The main connection of the network (backbone) must have a secondary backup line to act as replacement if and when it stops or cut off.	
5	The network supporting more than 200 devices must be equipped with a network management system NMS, provided that this system must include all means of monitoring the network, identifying the interruptions and self-reporting them.	
6	The network should be divided into segments and clusters if the number of networked devices exceeds 200 devices to avoid the formation of a big flat network.	
7	The network must be compatible with both IPv4 and IPv6, the existing standard IP and management systems.	
8	The network devices must be computed with 20% extra capacity.	

6- Power Supply:

S.N	Requirements	Remarks
1	Security systems must be powered by Uninterruptible Power Supply (UPS) devices, so that the systems can operate on their own when main power cut occurs for minimum period of 30 minutes.	
2	All recording devices in VSS systems must be connected to UPS devices. The connection of the rest of the VSS devices to the UPS devices is detailed in the relevant annexes.	
3	The recording devices and UPS devices must be integrated so that UPS devices can signal for safe shut down once the remainder of the UPS power supply batteries reaches 25% of the total charge.	

7- Control and Management:

S.N	Requirements	Remarks
1	Video management system (VMS) software shall be provided in any VSS analogue system with 64 or more connected cameras or 4 or more recording devices.	
2	Control of PTZ cameras through serial ports is achieved through serial ports RS-232, RS-422, RS-485, with compatibility with all analogue devices and equipment associated with this serial analogue network.	
3	Control security features shall be provided through passwords and with different rights levels.	
4	Control workstations shall be designed and dedicated to these tasks only.	
5	When it is necessary to integrate different systems with security systems; (such as the integration of VSS with access control, alarms and BMS), Physical Security Information Management (PSIM) should be used after obtaining the prior written approval from SIRA.	

Second: Digital Systems Specifications (IP):

1. Cameras:

S.N	Requirements	Remarks
1	They shall be colored.	
2	The resolution of cameras shall not be less than Full HD1080p.	
3	Variable bit rate shall be activated. Fixed bit rate shall not be used or activated, without maximum speed limits	
4	They shall be compatible with all standard security systems management software operating in the market or capable of linking directly with well-known standard systems.	
5	The signal-to-noise ratio shall not be less than 48 dB.	
6	Shall be visible and not hidden. SIRA approval is required for hidden/covert cameras.	
7	Cameras shall be intended for security applications only and are manufactured to work for extended periods without interruption.	
8	Outdoor cameras shall be of at least IP66 rating, shall be contained in special housings not less than IP66 rating and should be suited to the Gulf region environment, i.e. high temperatures, humidity and dust.	
9	It is required that any camera facing a natural or artificial light source, whether directly or reflected from polished surfaces, shall be a Wide Dynamic Range (WDR) camera, with at least 110 dB gain ratio, or the equivalent.	
10	Auto Iris shall be used for sites where there are changing lights conditions.	

11	IR Cut Filter is required with the ability to self-switch to monochrome night imaging when the visible light disappears.	
12	Cameras installed at height of 4 meters and above shall have remote zoom and focus ability.	
13	Cameras fitted with audio facilities (microphone) are prohibited and cannot be used unless permission obtained from SIRA.	

2. Recording Devices:

S.N	Requirements	Remarks
1	Only digital recording devices are to be used.	
2	The recording accuracy should not be less than Full HD 1080p.	
3	The live streaming resolution should not be less than Full HD 1080p in single display mode on a single monitor, and at least 2CIF for each camera in multi display mode.	
4	They shall be able to do the three basic functions simultaneously: (1) Live viewing; (2) Recording; and (3) Playback with the performance of any of these functions is neither impaired nor adversely affected.	
5	The number of frames per second for the live view shall be at least 25 FPS per camera.	
6	Copy feature shall be provided for some or all of the recorded clips and for any required period whether for one camera, or a set of or for all cameras connected to a recording device, with ability to convert them into standard storage media format, enabling playback using a standard player.	
7	The maximum period for transmission of the recorded video shall be at ratio of 1/10 of the time of displaying the same recording at the normal speed.	
8	Effective and efficient search tools shall be provided to quickly and simply access- desired clips, including the search through the compound selection for both date and time specifying the cameras included in the search. Search results for all cameras included in the search are displayed simultaneously. Fast and slow viewing, with progressive and reverse time directions, shall be provided.	
9	Continuous and non-continuous recording shall be provided (non-continuous recording is associated with a specific event such as detection of motion or a signal from an external device such as intruder alarm sensors). In the case of non-continuous recording VMD, the device shall be able to record at least ten (10) seconds prior to the event, applicable to all cameras connected to the recording device can be operated on individual cameras.	
10	The minimum recording setting VMD recording at a rate of not less than 70% of the day per camera, not less than 10 frames per second for each camera and not less than 31 days.	
11	The recording devices shall be computed with 20% extra capacity.	

12	The device shall accept the addition of external storage devices for increasing the total storage capacity.	
13	The device shall be able to display the name of the camera and the real time and date clearly, without affecting the camera view. (The system should preferably accept Arabic lettering). The camera position name should be clearly indicating the name of the location with no vague or ambiguous use of symbols.	
14	The device shall have effective feature of automatic self-recording when it shuts down for any reason whatsoever. That this feature shall be effective even if the device is not turned off properly; such as (such as misuse, making mistake while shutting down, maintenance, or device downtime)	
15	Only variable bit rate feature shall be enabled without setting a maximum speed of transmission. Fixed bit rate is not accepted.	
16	Software Development Kit (SDK) shall be made available and be provided to SIRA upon request.	
17	It shall be compatible with ONVIF 2.0 standards.	
18	It shall support live viewing through the Real Time Streaming Protocol (RTSP).	
19	It shall support the Central Time feature (Network Time Protocol (NTP).	
20	It shall support the feature of sending an alarm in case of storage disk failure.	
21	It shall support a warning feature if the hard drive is full and overwriting the data feature is not activated.	
22	It shall support sending a status notification when recording is turned On and Off.	
23	It shall support sending a status notification of changes in the recording schedule.	
24	It shall support sending a warning notification in case of the interruption or malfunction of the VSS camera.	
25	It shall support sending a status notification of a user login to the device with identification of the user.	
26	It shall support sending a pulse signal that the device is running.	
27	It shall be able to recognize and store on a storage media compatible with the operating system (Windows), with its various capacities.	
28	Recording files shall be in standard formats that can be viewed directly on the multimedia player software available in Windows operating system.	
29	In the case of recording file formats for the system or factory settings or that are encrypted or non-standard, software for viewing them shall be offered on standard Windows operating system.	

3- Monitors

S.N	Requirements	Remarks
1	All monitors shall be of high operational specifications to be suitable for continuous operations without interruptions for a period not less than three years.	Monitors shall be designed for continuous work 24/7 - 365 days.
2	The monitor's resolution should not be less than Full HD 1080p.	
3	Monitors shall be specific to surveillance and not television screens.	
4	At least two monitors shall be available to each security systems operator, the size of each shall not be less than 21 inches.	
5	Wall monitors shall be provided in the Control rooms.	The image size of each camera should not be less than 12 x 6.7 cm in the display monitor
6	The number of monitors required for displaying cameras' imaging shall be calculated with taking into account critical and normal cameras.	as indicated in Clauses 9 & 10 below.
7	Monitors shall be provided to display all cameras	Except for the establishment that do not require the provision of a control room and where the number of cameras is less than 64 or the number of recording devices is less than 4, and where one monitor can be provided with a KVM switch.
8	Monitors at Workstations <ul style="list-style-type: none"> The monitor should not be less than 21 inches. For each workstation, there shall be at least 2 monitors. The aspect ratio of the display on the monitor shall be compatible with the aspect ratio of the capturing view of the camera (4:3, 16:9, 16:10). 	
9	Critical cameras imaging shall be displayed in the central area of the full wall monitor continuously, including cameras on entrances, reception, help desks, passenger's drop-off areas, elevator lobby, staircases in the main floors, main lobby and any other cameras deemed as	

	important by the security officer or as per the instructions of SIRA.	
10	Standard cameras imaging shall be displayed in the terminal areas of the full wall monitor in the form of sets of serial cameras, provided that the total cycle time does not exceed 60 seconds and the number of sets does not exceed 6 sets. Then, the serial cycle returns to the first set of cameras.	(Definition of "set": A matrix of different cameras arranged to occupy the display space on the monitor).
11	<p>Wall Monitors</p> <ul style="list-style-type: none"> • The thickness of the outer frame of wall monitors shall not exceed 4 mm. • Wall monitors shall allow the control of the display modes (number of cameras to display) • Wall monitors shall allow the display of data and maps. 	

4. Connectors

S.N	Requirements	Remarks
1	Where twisted pairs are used, the quality of Twisted Pairs used should contain the minimum high-quality copper known as CAT.	(Aluminum-coated copper cables) and (Copper-coated steel cables) are not allowed.
2	Range extenders may be used only if the image quality and signal are not adversely affected.	
3	All system connections shall be secured against tampering or accidental interruptions. This can be done by placing the lockable container.	
4	All connections shall be kept safe and away from tampering, manipulation or unauthorized connection.	
5	High and good quality cables and connectors shall be used.	
6	The good appearance of the connection should be taken into account and visible wiring and connections should be avoided whenever possible.	
7	Visible wiring shall be protected by plastic pipes for indoor connections and metal pipes specially designed for outdoors and specifically manufactured for extending wires.	
8	The connections shall be numbered, named and labelled at all ends of the wires.	

9	All plans, drawings, charts, designs, devices, schedules, names tables, and wiring schedules shall match the devices that are actually installed.	
10	It is prohibited to use wireless communications except with the prior written approval from SIRA.	
11	International engineering Standards and conditions shall be followed with regards the extension, installation, numbering and management of connections	

5. Network

S.N	Requirements	Remarks
1	Any method of connection to the network infrastructure (Topology) can be used in accordance with the technical design and the security systems requirements.	All points mentioned in the table shall be complied with.
2	An independent private network dedicated only to security systems shall be established and installed.	
3	The network shall have the characteristics of sustainability and abundance to avoid single main breakpoints that are irreplaceable.	
4	The main connection of the network (backbone) shall have a secondary backup line to replace it if and when it stops or cut off.	
5	The network supporting more than 200 devices shall be equipped with a network management system (NMS), provided that this system shall include all means of monitoring the network, identifying the interruptions and self-reporting them.	
6	The network should be divided into segments and clusters if the number of networked devices exceeds 200 devices to avoid the formation of a big flat network.	
7	The network shall be compatible with both IPv4 and IPv6, the existing standard IP and management systems.	
8	The network devices shall be computed with 20% extra capacity.	

6- Power Supply:

S.N	Requirements	Remarks
1	Security systems must be powered by Uninterruptible Power Supply (UPS) devices, so that the systems can operate on their own when main power cut occurs for minimum period of 30 minutes.	
2	All recording devices in VSS systems must be connected to UPS devices. The connection of the rest of the VSS devices to the UPS devices is detailed in the relevant annexes.	
3	The recording devices and UPS devices must be integrated so that UPS devices can signal for safe shut down once the remainder of the UPS power supply batteries reaches 25% of the total charge.	

7- Control and Management

S.N	Requirements	Remarks
1	Video management system (VMS) software shall be provided in any VSS analogue system with 64 or more connected cameras or 4 or more recording devices.	
2	Control security features shall be provided through passwords and with different rights levels.	
3	Control workstations shall be designed and dedicated to these tasks only.	
4	When it is necessary to integrate different systems with security systems; (such as the integration of VSS with access control, alarms and BMS), Physical Security Information Management (PSIM) should be used after obtaining the prior written approval from SIRA.	

Third: Access Control System Specifications

1. General Specifications:

S.N	Requirements	Remarks
1	They should be integradable with all fire alarm systems adopted by the Civil Defense.	
2	They should be central.	
3	They should be able to deal with analogue and digital systems.	

2. Lock Mechanisms:

S.N	Requirements	Remarks
1	Lock mechanisms should open automatically in an emergency. The use of electromagnetic or electromechanical locks is allowed.	
2	They should be self-locking in an emergency. Only electromechanical locks may be used if installed on the following doors: <ul style="list-style-type: none"> • Cash and Precious items safes; • Safes containing hazardous substances; • Safes containing narcotic and specialized substances; • Arms and ammunition safes; • Detention and restraint sites; 	With regard to any place that uses self-locking locks in emergencies and it is possible for people to operate it, the lock should have a manual opening function in case of emergency and this feature should be limited to the protected area of the lock.

3. Identification Devices:

S.N	Requirements	Remarks
1	All of the following identification methods are acceptable: <ul style="list-style-type: none"> • PIN Number panel; • Electronic identification such as online and offline ID cards; • Biometric Readers provided that they are fingerprint readers, retina scanners or vascular network reader. No other readers may be used without prior written consent of SIRA. 	<ul style="list-style-type: none"> • It is not acceptable to rely on the secret password/code alone. • Wireless identification devices shall not be relied on.

4. Connectors:

S.N	Requirements	Remarks
1	Wireless connections may not be used without the consent of SIRA.	
2	Aluminum-coated copper cables and copper-coated steel cables are not allowed.	
3	All internal connections of the system shall be secured against tampering or damage.	
4	All cables shall be hidden or routed in electrical containment (plastic internally, galvanized metal externally).	
5	All cables shall be numbered, labelled and specified on both ends. All system plans, charts, and schedules shall be consistent with what is already installed.	

6	All cables and connectors shall be installed according to cable-type standards, in accordance with international specifications and standards.	
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5. Control Panel:

S.N	Requirements	Remarks
1	All control panels shall be provided with a spare battery that ensures continuity of operation for at least 4 hours if main power failure occurs.	
2	Systems shall be based on IT network connectivity.	
3	They shall be equipped with the ability to save all operations internally when the central controller is disconnected and to complete the data update automatically when the connection is back.	

6. Management and Control Software:

S.N	Requirements	Remarks
1	It shall work on various platforms and operating systems.	
2	It shall maintain entry and exit login details for all connected devices for at least one year.	
3	The enrolment station shall be installed in a secure and safe place.	
5	It shall contain an interactive electronic map of system control.	
5	Full software development kit (SDK) shall be provided for all parts of the access control systems, which enables effective integration with any other systems.	

Fourth: Alarm and Intruders Detection Systems

*** All parts of the system shall be Grade - 3 as a minimum requirement.

1. Sensors:

S.N	Requirements	Remarks
1	The sensors field shall cover whole protected areas with no uncovered zone that may be penetrated to stop or disable the security system.	
2	Dual motion detector sensors (by infrared and microwave) shall be used.	
3	Vibration detection sensors shall be used.	
4	Drilling detectors shall be used.	
5	Glass break sensors shall be used.	
6	Panic buttons shall be provided to the concerned persons, shall be easily accessible and hidden.	
7	Door contacts installed for both normal and fortified doors.	

2. Audio-Visual Alarms

S.N	Requirements	Remarks
1	The audio-visual alarm shall be installed, and shall be equipped with a specialized loudspeaker and an intermittent strobe light that draws attention.	
2	The duration of the device's siren shall be set for a period of no less than 5 minutes or until the alarm is reset.	
3	The audio-visual alarm to be installed with a minimum 110 dBA at 1m so that it is audible and its strobes are visible from outside.	
4	The audio-visual alarm to be installed shall be equipped with an additional internal power supply (UPS) that will run for period of continuous 8 hours.	

3. Connectors

S.N	Requirements	Remarks
1	Connectors shall be hard-wired. Wireless connectors of sensors may be used only after obtaining the prior written consent of SIRA.	
2	Each sensor should be connected to the control panel and alarm in one individual zone.	
3	All system wires shall be extended by dedicated conduits.	
4	Except for strobe light and sirens, all alarms components to be installed in	
5	The entire system shall be equipped with an additional internal power supply (UPS) that will run at least 8 hours if power cut occurs.	
6	Aluminum-coated copper cables and copper-coated steel cables are not allowed.	
7	All cables shall be numbered, labelled and specified on both ends.	
8	All system plans, charts, and schedules shall match with the alarm devices that are installed.	
9	All inter-connectors shall be installed in accordance with international specifications and standards.	

4. Control and Alarm Panels

S.N	Requirements	Remarks
1	The alarm control panel shall be approved by SIRA.	
2	The control panel shall be connected to the central alarm monitoring station.	
3	Each sensor shall be programmed separately on a separate zone, and named according to the installation location.	
4	They shall have the communication devices approved by SIRA.	
5	They shall be connected to the establishment lighting system so that establishment lights come on when alarm is triggered.	

6	The control panel shall be installed in a secure, hidden and not easily accessible.	
7	The keypad shall be installed away from the control panel and near the entry or exit doors.	
8	The alarm systems have features for triggering in cases of damage, sensors tamper, control panel opened or removed, disconnection, failure in the power supply.	
9	The time prescribed to disarm the alarm system should not exceed one minute. If a longer period is required, the prior written consent of SIRA shall be obtained.	
10	The number of wrong attempts to disarm system should not exceed (3) successive attempts.	
11	The control panel must be provided with a backup battery that works for 8 hours continuously	

5. General Requirements for the Keyholder

S.N	Requirements	Remarks
1	The Keyholder in the facility shall arm the alarm system after the end of working day in case of building evacuation.	
2	The Keyholder in the facility shall immediately respond to the police call and appear on spot upon receiving any notification of any alarm.	

Fifth: Lock Requirements

Locks that are resistant to puncture, knocking off, and cutting off and high- quality lock keys for, based on Standard No.: EN 12320:2012(E) Lock standards and combinations, requirements and test methods, shall be installed.

1. General requirements

S.N	Requirements	Remarks
1	The locks shall be resistance to power on the plug or the security mechanism, and the durability shall not be less than 10 kN	
2	The locks shall be torque resistance on the plug or the locking mechanism, and the durability shall not be less durability is about 20 Nm	
3	The locks shall be resistance to pulling the lock, shackle and staple, and the durability should not be less than 70	
4	The locks shall be resistance to twisting the lock, shackle and staple, and the durability should not be less than 1200 Nm	
5	The locks shall be resistance to cutting the lock, shackle and staple, and the durability should not be less than 70 kN.	
6	The locks shall be resistance to affecting the body of the lock, shackle and staple at low temperature, and the durability should not be less than: <ul style="list-style-type: none"> -40 Celsius. 	

	<ul style="list-style-type: none"> 6550 grams. 1400 mm 	
7	The locks shall be resistance to drilling the body of the lock, shackle and staple, and the durability must not be less 4 minutes	
8	The locks shall be resistance to cutting the body of the lock, shackle, and staple, and the durability shall not be less 4 minutes	
9	The locks shall be resistance to manual attacks, and the durability shall not be less 5 minutes	

Sixth: Specifications of anti-penetration glass

1. General Specifications

S.N	Requirements	Remarks
1	Penetration-resistant glass or films installed on the outside frame shall be used on the glass facades of the establishment to prevent penetration of the glass for at least 90 seconds.	

Seventh: Barriers Requirements (Security of the External Perimeter)

These are used to control the movement of vehicles and resist breakthrough.

1. Standards

S.N	Requirements	Remarks
1	PAS68:2013	Collision Standards for Vehicle Barriers Systems
2	PAS69:2013	Guidance for the selection, installation and use of vehicle security barrier systems

2. Type of Barriers in terms of shape (of different shapes and patterns designed for this purpose)

S.N	Requirements	Remarks
1	Strong fortified fences;	
2	Bollards;	
3	Road Blockers;	
4	Planter Boxes;	
5	Assets and equipment of road reserve;	
6	Water basins and fountains,	
7	Columns, whatever their use.	
8	Landscape elements; such as rocks, highlands, dunes and water bodies.	

3. Type of Barriers in terms of operation:

S.N	Requirements	Remarks
1	Controllable barriers are those that can be removed (by moving, folding or pulling them out) temporarily for the purpose of allowing vehicles to pass through them, and then return them to their initial position. This shall be done by manual or automated means by the authorized persons.	
2	Fixed barriers are the permanent non-removable barriers.	

4. Requirements

S.N	Requirements	Remarks
1	Controllable barriers: they shall have a certificate of compliance with international standards from authorized entities. This certificate shall be	
2	Fixed barriers: they shall have a certificate of compliance with international standards from authorized entities. This certificate shall be certified and approved by SIRA according to the regulations in force for this purpose. Otherwise, the full engineering calculations under which these barriers are designed and implemented shall be provided as issued by a security-engineering consultant, taking into consideration the minimum shock resilience.	
3	The prior written consent of SIRA shall be obtained about the locations, design and calculation of all types of barriers for each project.	

5. Installation Requirements

Application of PAS69:2013

S.N	Requirements	Remarks
1	Light <ul style="list-style-type: none"> Vehicle weight: 1,500 kg Vehicle description: Light, 4x2, with 1 rigid axle Collision speed: 110 km/h Collision angle: 90 degrees Breakthrough distance: 1.7 meter 	
2	Average <ul style="list-style-type: none"> Vehicle weight: 7,500 kg Vehicle description: Average, 4x4, with 2 rigid axles Collision speed: 80 km/h Collision angle: 90 degrees Breakthrough distance: 2 meters 	
3	Heavy <ul style="list-style-type: none"> Vehicle weight: 32,000 kg Vehicle description: Heavy, 6x6, with 4 rigid axles 	

	<ul style="list-style-type: none">• Collision speed: 80 km/h• Collision angle: 90 degrees• Breakthrough distance: 2.5 meter	
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Section Two: Operational Requirements

First: Image Operational Requirements

1. Definitions

S.N	Term	Definition
1	Camera view	The view captured by the camera and displayed on the monitor
2	Target measure	The body view at scale height of 1.6 meters as represented by a human body or a standard test target.
3	Pixel density	The calculation of the number of pixels per meter at the standard target.
4	Number-Plate Recognition View Range	The view of the plate number of a vehicle with a size of 330 x 160 mm.
5	Inspection view Range	It is used to study the face expressions of the persons (Target), that's why the face shall be the most important section of the image.
6	Identification view Range	It is used to identify the persons (targets) that have not previously identified as they enter the establishment.
7	Recognition view Range	It is used to recognize and follow the persons (targets) that are previously identified.
8	Observation view Range	It is used to control and guide crowds, gatherings and observe public events of people.
9	Detection view Range	It is used to detect key events such as the nature of movement, direction and overall appearance.
10	Monitoring view Range	It is used to detect the existence of targets without recognition, for early warning purposes.

2. Inspection View Range:

S.N	Requirements	Remarks
1	The image size of the target shall not be less than 400% of the display size on the monitor. In exceptional cases, and with the prior approval of SIRA, the pixel density of the image should not be less than 1000 pixels per meter.	It is required to install the camera exactly at front of the object (target) so that the center of the image is the spot between the eyes of the "standard target", which has a height rate of 1.6 meters. The camera can be installed at a horizontal angle not exceeding 10 degrees to the right or left and a vertical angle not exceeding 10 degrees above or below the horizon.

3. Identification View Range:

S.N	Requirements	Remarks
1	The Target face shall be the most important part of the image. The size of the target image shall not be less than 120% of the display size on the monitor. In exceptional cases, and with the approval of SIRA, the pixel density of the image should not be less than 300 pixels per meter.	<ul style="list-style-type: none"> It is required to install the camera exactly at front of the person (target). The camera can be installed at a horizontal angle not exceeding 45 degrees to the right or left and at vertical angle not exceeding 20 degrees above or below the horizon line. The wide dynamic range (WDR) is also required feature in these cameras, which is used for identification regardless of the location in which the cameras are installed. WDR ratio should not be less than 110 dB.

4. Recognition View Range:

S.N	Requirements	Remarks
1	The whole body and the surrounding area shall be the most important part of the image. Hence, the size of the target image shall not be less than 50% of the display size on the monitor. In exceptional cases, and with the prior approval of SIRA, the pixel density of the image should not be less than 125 pixels per meter.	The camera should be installed to monitor a 1.6-meter "standard target" from any left or right angle and a vertical angle not exceeding 45 degrees above the horizon line.

5. Observation View Range:

S.N	Requirements	Remarks
1	The whole body and the surrounding area shall be the most important part of the image. The size of the target image shall not be less than 25% of the display size on the monitor. In exceptional cases, and with the approval of SIRA, the pixel density of the image should not be less than 63.5 pixels per meter.	The camera can be installed to monitor a 1.6 meters "standard target" from any left or right angle and a vertical angle not exceeding 45 degrees above the horizon line unless otherwise specified.

6. Detection View Range:

S.N	Requirements	Remarks
1	The whole body and the surrounding area at an average distance shall be the most important part of the image. The size of the target image shall not be less than 10% of the display size on the monitor. In exceptional cases, and with the approval of SIRA, the pixel density of the image should not be less than 30 pixels per meter.	The camera can be installed to monitor a 1.6-meter "standard target" from any left or right angle and a vertical angle not exceeding 75 degrees above the horizon line.

7. Monitoring View Range:

S.N	Requirements	Remarks
1	The whole body and the wide and distant surrounding area shall be the most important part of the image. The size of the target image shall not be less than 5% of the display size on the monitor. In exceptional cases, and with the prior approval of SIRA, the pixel density of the image should not be less than 12.5 pixels per meter.	The camera can be installed to monitor a 1.6-meter "standard target" from any left or right angle and a vertical angle above the horizon line.

8. Number-Plate Recognition View Range

S.N	Requirements	Remarks
1	Automatic Electronic Methods, where the systems approved by SIRA shall be installed.	Review the security conditions and requirements for the sectors.
	Visual Methods: They are used to provide a clear image enabling the operator to read the vehicle registration number accurately. That is why the height of the apparent letters and numbers (the target) shall be completely displayed on the screen and shall not be less than 20% of the display size on the monitor. In exceptional cases, and with the approval prior of SIRA, the pixel density of the image should not be less than 400 pixels per meter.	The camera can be installed for surveillance at an angle not exceeding 30 degrees above the horizon line and a horizontal angle not exceeding 30 degrees.

Second: Remote Access Requirement

S.N	Requirements	Remarks
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1	The VSS system shall be connected to the system of linking and following up the safety of VSS System approved by SIRA	
2	Alarm systems and intruders' detection systems approved by SIRA shall be connected with the system of linking and monitoring the alarm and intruders' detection systems approved by SIRA.	
3	Electronic registration systems for vehicles' plate numbers shall be connected with the system of linking and monitoring the electronic registration systems for vehicles' plate numbers approved by SIRA.	

Third: Management and Operation

S.N	Requirements	Remarks
1	An official shall be present continuously. He should be familiar with the use and operation of the systems and the implementation of all operational processes such as copying, searching, downloading clips, and dealing with the parts of the systems efficiently. This official should also be responsible for ensuring that the systems are functioning properly and that any malfunctions are reported promptly according to the established procedure.	
2	SIRA-approved standard warning banners and signs to indicate that there is VSS surveillance operational and shall be placed at all main entrances and inside the elevators.	
3	A record of each copying process shall be provided so that it contains all data related to the copying process, who conducted it, where it was saved, and who received it, according to the approved form.	
4	The time and date in which all security systems operate shall be true, correct and corresponding to reality. All different parts of systems shall be synchronized and update the time and date in an automatic manner that is consistent with the relevant systems operating in SIRA.	

Fourth: Security Lighting

S.N	Requirements	Remarks
1	Scenes to provide range of the VSS cameras shall be fully visible and have no dark spots.	
2	Invisible infrared security light may be used in secondary surrounding areas that are not primarily used or where visible light is not sufficient for surveillance by VSS cameras so that the infrared light covers the range of VSS cameras and no infrared light is reflected in the camera.	
3	The use of security lighting shall not result in a negative impact on the safety of others.	(such as the impact of lighting on drivers' vision)

Fifth: Image acceptance

S.N	Requirements	Remarks
1	The image shall be clear and can be interpreted and read easily by the observer and straight lines shall be recognized without any distortions of the image.	
2	The image shall be stable and should not vibrate even in moderate wind conditions.	
3	The camera's field of view shall be clear and free from obstructions that blocks a part of the image. If the blocking ratio exceeds 5% of the total image area, the image shall be considered unacceptable. The image should be free from any blocking or obstructions of the image shall not exceed 5% of the total area of the image.	

Sixth: Maintenance and Sustainability of Security Systems

S.N	Requirements	Remarks
1	All digital recording devices shall be installed in secured, clean, and continuously controlled locations. The access to them shall be limited to authorized personnel and tampering with them shall be prevented. The establishment is fully responsible for providing a sustainable and audited record of entry and exit details and events related to the location where these devices are installed. The establishment is fully responsible for immediately reporting any incident that prevents the functioning of the security systems. SIRA shall be notified by e-mail and the registered maintenance company shall be notified by such means of communication agreed upon in the official maintenance contract registered at SIRA.	
2	All security system connections shall be independent and dedicated only to serve the security systems. These connections may not be part of external networks, and may only be connected to if the connection is for integration purposes (with other relevant security systems). If so, a firewall shall be provided to secure it after obtaining a prior written consent from SIRA.	
3	All active parts of the IT network that serve the security systems shall be installed in secure, clean locations. Access to them shall be limited to authorized personnel only and tampering with them shall be prevented (whether the main and secondary zoning and distribution rooms or the dedicated shelves). The establishment is fully responsible for providing a sustainable and audited record of entry and exit details and events related to the location where these devices are installed. The establishment is immediately when any incident of the security systems. SIRA shall be notified by email and the maintenance company shall be notified by such means of communication agreed upon in the official maintenance contract registered at SIRA.	

4	All wires and connections shall be invisible, contained within containment devices for wires, and they shall be extended such as; pipes, ducts, buried vessels and others. Wires shall not be exposed.	
5	Power sockets that supply the security systems and their terminals of camera controls and others shall be protected from tampering to avoid getting them intentionally turned off by intruders.	
6	If the building or establishment is likely to be exposed to lightning, security systems shall be fully protected against lightning and the charges reflected from ground connections.	
7	The installation of security equipment and devices shall be in secure locations away from tampering, damage or accidents such as objects falling on or colliding with them.	
8	If the installation conditions require that the security equipment and devices be accessible to standard persons (i.e. persons who are 1.6 meter-tall and not equipped with additional equipment), these security equipment and devices shall be equipped with features of protection against tampering and damage (less than 2.5 meters) and with shock resistant features not less than IK10 according to the international standard classification.	

Seventh: Maintenance, Development and Modification of Security Systems

S.N	Requirements	Remarks
1	The establishment shall be bound to have an annual maintenance contract with one of the companies registered at SIRA. The contract shall include a preventative maintenance program of not less than 4 visits a year, together with response program and the legal penalties in case of any breach thereof. The establishment will be responsible for notifying SIRA when the execution of the provisions of the maintenance contract fails.	
	The user, the establishment and the maintenance and installation service provider shall provide a sustainable record and shall inform SIRA in the event of any action, procedure or event that leads to a complete or partial change, even if it is simple: <ol style="list-style-type: none"> 1. The design of security systems; 2. Specifications or components of the security systems; 3. . Arrangement, definition and programming of the security systems devices; 4. Maps of the site monitored by the security systems; 5. The levels of lighting that affect the security systems; 6. . The presence or addition of obstacles impeding the operation of security systems; 7. Expanding or shrinking the establishment in terms of buildings and spaces, and adding or merging buildings or commercial licenses; 	Changes include all works and are not limited to the examples mentioned

	<p>8. Adding or removing entrances, exits, fences or open areas to public spaces;</p> <p>9. Changing activities or business;</p> <p>10. The existence of adjacent projects of facilities that have an impact on the security systems.</p> <p>11. Any other action not mentioned here but has an impact on the efficiency, comprehensiveness or effectiveness of the security systems.</p>	
	<p>The entire technical maintenance staff shall be registered at SIRA, and the service providers shall update the information of their technical staff directly and continuously at SIRA.</p>	

Eighth: Prohibitions

S.N	Requirements	Remarks
1	It is prohibited to use cameras with zoom in and out on places of privacy except after obtaining the approval of SIRA.	
2	It is prohibited to use hidden cameras except after obtaining the approval of SIRA.	
3	It is prohibited to install external cameras on the roof whose detection view exceeds the boundaries of the concerned establishment except after obtaining the approval of SIRA.	
4	It is prohibited to install and use cameras with sound capturing feature except after obtaining the approval of SIRA.	It is permissible to activate the audio recording feature of the television surveillance system, provided that guiding panels are provided showing the presence of audio and visual recording of the closed circuit television system of the facilities at the entrances to the establishment, in a clear manner for visitors, after obtaining approval from SIRA

Ninth: Exceptional Cases

S.N	Requirements	Remarks
1	If there are facilities or common premises in an establishment that has more than one activity, the maximum requirements shall be applied to them.	
2	All that is provided for in the Preventative Manual is the minimum specifications and requirements which shall be complied with. In no	

	case shall the equipment, installation or implementation be carried out with less than the minimum specifications or requirements. Reframing from complying with any of its provisions is only allowed upon obtaining written consent of SIRA.	
3	SIRA may impose any additional security measures, services, study, analysis, evaluation, specifications, requirements, design or modification of security, engineering and architectural designs as required by the security situation and as it deems fit.	
4	Installation of security equipment and devices shall not result in the loss of the features approved by the Civil Defense such as fire-resistant doors or service outlets designated to prevent the spread of flame and fire and other specialized equipment. The Civil Defense vehicles may not be obstructed.	

Tenth: Work and Installation Quality

S.N	Requirements	Remarks
1	The appearance should not be distorted by messy security systems. The installation shall be carried out to provide standard formal controls in terms of hiding or encasing wires and the use of installation footing specially designed for the installation of security equipment.	
2	All connectors and wires on both sides shall be numbered and marked with standard marks and numbers that are specifically made for this purpose.	
3	Safety procedures shall be observed. Individuals and properties shall not be harmed. Warning and guiding signs shall be placed to avoid harming others.	