

ANNEXURES



ANNEXURE 1

Technical Specifications of NVR and IP cameras (Full Digital Resolution)

S.No	Component / System	Technical Specifications
1	Network recorder (NVR) required specifications	4/8/16/32 Channel NVR with 2 / 4 SATA slots with each slot supporting one 6 TB Hard disk. For IP cameras of 2 MP resolution minimum of 12 TB of Hard disk is recommended for adequate back up of 90 days. The NVR should support Power Over Ethernet (POE) for reduced cabling. Should support 2 way audio. Should support third party cameras. Should support recording from Minimum 6 MP IP cameras or more.
2	Hard disk – Surveillance Grade	4 TB/ 6 TB * 2 disks with 2 years warranty (Seagate / WD or equivalent)
3	IP camera – 2 MP – To be set to 15 Frames Per Second (FPS)	2MP :: 1/2.8" Progressive CMOS, ICR, 0lux with IR, 1920x1080:25fps(P)/30fps(N), H.265+/H.265/H.264/MJPEG, DC12V & PoE, 3D DNR, BLC, IR range: up to 50m, Support on-board card slot -S: Audio/Alarm IO connectors
4	Stand alone IP camera	1/3" Progressive CMOS/ ICR/ 0lux with IR/ 4mm@ F2.2 (1920/1080/ H.264/ DC5V/ DWDR/ 3D DNR/ BLC/ Smart Motion Detection/ Smart Motion Tracking/ On-board card slot (up to 128GB)/ Build-in microphone/ Up to 10m IR/ Wi-Fi with Software smart-configuration via mobile phone
5	Network Switch for NVR and Cameras	Unmanaged Poe, 8 100M Poe, 1 100M uplink port, 250m Transmission, 6KV Surge Protection, 58W
6	Network Cable	Cat 6 (T P link) Cabling BIS certified
7	Micro SD Card / SD card	64 GB Micro SD/ SD Card (Class 10 UHS 3)

Other Details on the NVR CCTV solution

Minimum two IP cameras will be enabled with 64 GB Micro SD Card (Class 10 UHS 3) for inbuilt recording. This will back up the recording for about 3 days in the camera itself and can be retrieved in case of an emergency.

A stand alone IP camera of 2 MP with a 64 GB SD card may be added and connected to a wifi broad band dongle (optional) exclusively for the IP camera. This camera can be remotely accessible up to 5 persons using mobile phone and all functions of camera can be controlled including remote viewing of footage rotation (PTZ) of the camera etc. The camera will also give instant alerts on any exception occurrence / intrusion in the area of coverage. This is expected to further reinforce our security equipment installed in our Branches by providing an early warning and alarm in case of any intrusion into the Branch. The power supply of this camera and Wifi Dongle also to be connected to the Branch UPS.

Other Terms & Conditions

- Minimum warranty for all products is 1 year.
- Warranty for Surveillance HDD should be minimum 2 years.
- Cost should be inclusive of delivery, installation and commissioning. Additional charges will not be applicable.

- d) 04 quarterly visits towards preventive maintenance should be carried out during the warranty period of 1 year.
- e) Vendor should be capable for giving Annual Maintenance Contract (Comprehensive or Non Comprehensive) for at least 03 years post completion of warranty. However, awarding of AMC is fully under the discretion of Bank.
- f) 5% of the Billed amount excluding GST will be retained as Security Deposit which shall be released after 1 year on submission of acknowledged copies of quarterly service reports and full serviceability report.
- g) EMD for an amount of Rs 50000/- in the form of Demand Draft in favour of Indian Bank Corporate Office, payable at Chennai should be enclosed along with the sealed quotation.



Technical Specification for Security Alarm System

1) Micro - Processor based Control Panel with inbuilt LED indication & with integrated Auto-dialer [preferably GSM Based. However, if mobile network is not available, PSTN (Public Switched Telephone Network) based]

1.1. External Body Features –

- 1.1.1 Protected from dust, water, vermin etc.
- 1.1.2 Acrylonitrile Butadiene Styrene (ABS)/ 18 SWG M S Cabinet, epoxy Coated.
- 1.1.3 Locking of panel by Allen Head screw on sides / internal lock
- 1.1.4 Bracket mounted.
- 1.1.5 Provision for battery compartment inside the panel.

- 1.2. **Micro - Processor based Control Panel with inbuilt LED indication** & push button to show the status/health of the system (Data Logger System). The panel should indicate the health of the system (Fault, power failure and battery status indicator).
- 1.3. Option to add wireless module having provision for Cordless Switch to activate the alarm system
- 1.4. Real Time Clock with accuracy of +/- 15 Sec per day.
- 1.5. In the event of any zone getting faulty or switch getting isolated, it should give indication on the LCD display and the system to remain functional
- 1.6. The system should automatically (arming & disarming) change from day to night mode & Vice-versa as per the real time clock (programmable) and also have option to change manually with existing key pad.
- 1.7. Sounding of hooters gets automatically put off after a period of **3 minutes** (programmable with the help of key pad) and thereafter the entire system should get reset)
- 1.8. The system shall have programmable 0 - 90 Sec time delay to activate the sounding of hooters for panic switches and entry and exit time delay from 0 to 90 sec for PIR.
- 1.9. The system should have in-built auto-dialer (PSTN based or GSM based).
- 1.10. System operating on Mains and battery backup (12V 7Ah) with recharging facility
- 1.11. Should support two external hooters besides the internal one
- 1.12. It should be compatible with PIR Sensors, Magnetic Sensors, Vibration Sensors, Light Sensors and have one zone for fire detector (smoke sensor) etc. and capable to put on the lights when activated during night mode.
- 1.13. Auto Reset after activation – 03 minutes (Day & Night Mode)
- 1.14. Any wire cut should activate the alarm system for 120 seconds and thereafter the affected switch / zone to get isolated/ bypassed with display / blinking of LCD panel indicating the defect
- 1.15. ON/OFF function of the system should only be with the help of keypad

2) In-built Auto Dialer:

- 1.1 It should be compatible with GSM / PSTN connection of any service provider.
- 1.2 Provision for storage and dialing minimum five (05) Telephone / mobile numbers with recording message up to 20 Seconds duration.
- 1.3 Message should be repeated at least twice before dialing the 2nd number. In case number not responded, facility to re-dial the number after completing the cycle.
- 1.4 Should have message recording facility at local end (Branch end)
- 1.5 In-built GSM auto-dialer should have the ability to generate SMS alerts in addition to auto-dialing the pre-fed numbers.
- 1.6 Provide signal strength and status indication on display screen.

3) Wiring:-

- 3.1 2 Core and 4 Core Multi strand .75 sq. mm, flexible, ISI marked (Finolex/ Plaza/Polycab/ RR Cable or similar quality), PVC insulated copper wire for connection of panic switches and other sensors respectively.
- 3.2 Rigid PVC conduit 2 mm ISI mark. Fixed with metal saddling at every 02 ft distance.

4) PIR SENSOR

- 4.1. Dual Technology (IR & Microwave)
- 4.2. Detection coverage horizontal angle 110 degrees
- 4.3. Detection Range: Up to minimum 10 Mtrs
- 4.4. Sensitivity range: Low/ Med/ High
- 4.5. Wall mounting facility
- 4.6. Pet / rodents immunity
- 4.7. Provision for calibration to adapt changes in ambient temperature due to various seasons

5) Hooter:

- 5.1. Min 90 dB for internal and 110 dB for External (CE & UL certification)
- 5.2. 4 wired with tamper loop (Cutting of hooter wire should trigger other hooter)
- 5.3. ABS body
- 5.4. Weather Proof
- 5.5. Wall mounting facility
- 5.6. Operates on 12 Volt DC

6) Magnetic Sensor:

- 6.1. ABS body
- 6.2. 4 wired with tamper loop (NC circuit)
- 6.3. Operating Gap: 15mm

7) Multi-Function Sensor :

- 7.1. Capable of vibration detection, metal cutting and glass breaking
- 7.2. ABS body
- 7.3. Sensitivity range: Low/ Med/ High

8) Panic Switches:

- 8.1. Sturdy built
- 8.2. Micro Switch Technology
- 8.3. In-built tamper Switch

ANNEXURE 3 (a)

Technical Specifications of automatic Fire Detection & Alarm System

Specifications of Panel & Battery	
1. Main Control Panel	Technical Specifications
Primary Function	The primary function of the control panel shall be to automatically respond to the operation of one or more detectors to give fire alarm and to indicate area (zone) from where the devices are activated
Specifications	Minimum 4 (Four) Zone Microprocessor based Control Panel conforming to IS 15908/2011 & 2189/2008. UL/EN approved, Approved / tested by ERTL/ ETDC or any Third Party Laboratory/ Test House recognized by Bureau of Indian Standards for this purpose may also be accepted.
Electrical \ Electronics	a) Built in power supply arrangement with AC/DC ON, system ON visual indicators. b) Automatic changeover arrangement to standby supply with built-in battery charger, low battery, charger fail, reverse polarity, AC/DC fail visual indicators. c) Built-in panel sounder with Acknowledge switch, lamp test and reset switches, evacuation alarm. d) Zone indicators for Fire, Open, Short, Isolate and Test Facility. e) On fault i.e, open / short condition, buzzer must sound and indicator lamp (LED) glow. This audible alarm should be distinct from the Fire Alarm. Trouble reminder f) Built-in Digital Ammeter, Digital Voltmeter, Air Conditioning turn- off relays and facilities for connecting Auto dialer
Power Supply	The fire panel shall operate from a 230 v + / - 10 % 50 Hz mains supply and in case of power failure shall automatically switch over to a built-in sealed maintenance free battery rated at 24V DC 7 AH with a switch over time of less than 100 ms. Deep discharge arrangement should be there.
Power Consumption	Less than 200 mA idle current and 1 –2 Amps on full activation.
AC Voltage at Input	Single Phase 50 Hz, 150-260 V. Auto cut-off protections for over and under current / voltage
DC Voltage for System	24 Volts
Type of indicator lamps	LED (Different colors)
Body	a) Type - Wall mounting, plug in modular type. b) Overall dimensions- Suitable size to accommodate 4 zones, other control components, and 2 X 12V 7 AH Battery.

	c) Thickness of body and colour - 16 SWG. Powder coating d) Opening of the Body/panel - Suitable locking arrangement through Key/Allen Screws e) Cable glands- Cable glands should be provided
Additional facilities:	Auto dialer should have capacity to register at least 5 (five) telephone numbers, be integrated within Main Control Panel
2. BATTERY UNIT	
Make	Standard ISI make
Type	Sealed, maintenance free
Voltage	12 Volts: 2 units.
AH Capacity	7 AH capable of providing 48 hrs stand by supply in case of AC failure as per IS 15908/2011 & 2189/2008 and full load operation for at least 30 mins.
Location	Both the batteries will be located within the Main Control Panel

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ANNEXURE 3 (b)

SPECIFICATIONS: MCP, HOOTER, RI AND CABLE	
3 . MANUAL CALL POINT	
Make as per BIS	As per IS 15908/2011 & 2189/2008. with hammer and chain
Material of body	M.S., Powder coated with approved P.O red
Thickness of body	1.5 mm.
Material of fragile element	Glass of 2mm thickness
Contact making breaking	Breaking for alarm
Dimension	100 mm x 100mm
Size of fragile element	70 mm x 70mm
Type of indicator lamp	LED
4 . ELECTRONIC HOOTER/SOUNDER	
Make	As per IS 15908/2011 & 2189/2008.
Watt/ capacity	6 Watts (Dual tone) of Min 65 db output
Type of sound emitted	Intermittent / Dual
Material of the body	Fabricated from either spun aluminum or moulded PVC
5 . RESPONSE INDICATOR	
Make	As per IS 15908/2011 & 2189/2008 or equivalent as per prevalent trade and practice, acceptable to the Bank
Type of indicator lamps	LED
Material of the body	Fabricated from either spun aluminum or moulded PVC or MS 16 SWG
6 . CABLE	
Make	Standard ISI mark
Specification	IS 1554-Part-1 1988
Type	2 core, 1.5 sq. Mm/core; Armoured Cable

ANNEXURE 3 (c)

SPECIFICATIONS: VARIOUS DETECTORS	
7 . DETECTOR	
i) IONISATION SMOKE DETECTOR:	
Operation Principle	Ionization (Apollo 65 and its equivalent other makes)
Specification	IS 11360-1985/UL-217/EN-54/FM/ LPCB
Voltage range	24 V DC, 20-30V
Type of Indicator lamp	LED
Compatible to work with	Optical and Heat and Multi Sensor
ii) OPTICAL SMOKE DETECTOR :	
Operation Principle	Light Scattering or obscuration (Apollo 65 and its equivalent
Specification	IS-11360-1985/UL/BS/FM/LPCB
Type of Indicator lamp	LED
Compatible to work with	Ionization and Heat and Multi Sensor
iii) HEAT DETECTOR:	
Operation principle	Rate of rise cum fixed temperature type.
Specification	IS-2175/1988, UL/BS/FM/LPCB
Type of Indicator lamp	LED
Compatible to work with	Ionization and Optical and Multi Sensor
