

Government of India
Bhabha Atomic Research Centre
Industrial Safety & Knowledge Management Section
Visahapatnam-531011

Date: 12-10-2025

Corrigendum

Response to Queries: Augmentation, Operation, Maintenance, of CCTV Surveillance system, in BARC, Vizag
Tender no: BARC/ESS(V)/ET/2/2026-2027

Tender Initiating Authority
BARC, Vizag

Government of India
Bhabha Atomic Research Centre
Industrial Safety & Knowledge Management Section
Visahapatnam-531011

Date: 12-05-2025

Response to Pre-bid Queries: Augmentation, Operation, Maintenance, of CCTV Surveillance system, in BARC, Vizag
Tender no: BARC/ESS(V)/ET/2/2026-2027

Tender Bid Queries & Clarifications

S. No.	Query	Response from BARC, Vizag	Query asked by
1	Item sl. no. 5: 4MP IR Automatic Number Plate Recognition (ANPR) Camera. Query: Whether the license for Automatic Number Plate Recognition (ANPR) Camera is included in this scope?	Yes, whichever license / software is required for utilization of Automatic Number Plate Recognition (ANPR) Camera with any NVR, VMS or Computer, must be supplied.	M/s Sunnet Solutions, Visakhapatnam
2	Item sl. no. 12: Hardware Based Video Management Server. Query: Whether this item shall comply to ONVIF?	Yes, it should comply to industry standard ONVIF profile S, T & G.	M/s Sunnet Solutions, Visakhapatnam
3	Item sl.no. 18: 24 Port SFP L2 Managed Fiber Switch Query: a) SFP module to be supplied with this device shall be 1Gbps or 10 Gbps? b) Also please confirm the number of SFP modules to be supplied with each switch?	a) SFP module to be supplied with this switch shall be 1Gbps or higher. b) As mentioned in the specifications, 8 number of SFP modules shall be supplied along with each switch.	M/s Sunnet Solutions, Visakhapatnam
4	Item sl.no. 19: 24 Port Network Switch with PoE+ & 4 SFP modules of 20Km populated. Query: a) SFP module to be supplied with this device shall be 1Gbps or 10 Gbps? b) Kindly clarify the spec mentioned as "4 x Gigabit Ethernet/SFP ports, Populated with duplex 4 SFP modules of 20Km" c) Kindly confirm the Surge & Lightning protection requirement	a) SFP module to be supplied with this switch shall be 1Gbps or higher. b) 4 SFP ports shall be available and these 4 SFP ports shall be populated with 4 no. of Gigabit SFP modules of 20 Km range c) Surge & Lightning protection must be available in power supply section of the switch.	M/s Sunnet Solutions, Visakhapatnam
5	Item sl.no. 23: 6U Weather proof network Rack Query: a) Please clarify the degree of Ingress protection required for this rack. b) Weather proof racks are not available with glass on front door, can we offer with metal door?	a) The degree of Ingress protection required for this rack is IP-55. b) Yes, 6U Weather proof network Rack may be offered with metal front door	M/s Sunnet Solutions, Visakhapatnam
6	Item sl. no. 39: Stainless steel outdoor enclosure Query: a) With the given dimensions, it is difficult to accommodate the equipment listed in the specs. Kindly review the dimensions. b) What shall be the Ingress Protection rating for this enclosure?	a) Dimension of enclosure shall be suitable for accommodating listed equipment. b) Ingress Protection rating for this enclosure shall be IP-66	M/s Sunnet Solutions, Visakhapatnam
7	Item sl. no. 42: Fiber Optic Joint Termination Enclosure Box with OFC Splicing. Query: Detailing of requirement (specs) is requested.	Fiber Optic Joint Termination Enclosure Box specs shall be as following: <ul style="list-style-type: none"> • Total Fiber count: 96 • IP rating: IP-68 • number of spice trays: 4 (ABS material) • cable entry sealing: heats shrink sleeves • Static load capability: 250kg • Material: PP (polypropylene) • Accessories: locking mechanism, grounding kit and valve 	M/s Sunnet Solutions, Visakhapatnam
8	Item sl. no. 44:Door Access Control System. Query: Whether supply & installation of EM lock is included in this scope?	Yes, supply & installation of EM Lock (of 500 Lbs or more) is included in this scope.	M/s Sunnet Solutions, Visakhapatnam
9	Specifications Sheet Item no 1 to 44 items are under AMC supply or separate supply	<ul style="list-style-type: none"> • The items listed in S/N 1, 2, 3, 10, 12, 14, 15, 16, 18, 19, 21, 29, 44; will be required to be supplied and installed immediately on release of work order. 	Department

		<ul style="list-style-type: none"> Items serial no. 4, 5, 6,8,11, 13, 17, 20, 24, 25, 26, 27, 30, 31, 36, 38, 40; 50% quantity shall be supplied&installed immediately on release of work order, remaining quantity as and when required basis. The items listed in S/N 7, 9, 22, 23, 28, 32, 33, 34, 35, 37, 39, 41, 42, 43; will be required to be supplied and installed on as and when required basis. 	
10	Item no.45 Annual Operation & Maintenance of CCTV surveillance system in BARC, Vizag Scope & conditions	As per specifications provided in the tender document, CCTV surveillance system is already operational in different sites of BARC (V), hence O&M of the CCTV surveillance systems (already existing) will start from commencement of contract. In addition, newly installed items (under this contract) will also be under the scope of O&M.	Department
11	Specifications Sheet	Specifications Sheet Enclosed for Missing Rows in specification sheet	Department

Specifications

Augmentation, Operation & Maintenance of CCTV Surveillance System in BARC, Vizag

A. Scope of Work:

- Augmentation of CCTV surveillance system in BARC, Vizag. SITC of items listed in BoQ below is part of this work. The quantities mentioned here may decrease or increase. SITC of items shall be as and when required basis.**
- Operation & Maintenance of CCTV surveillance system in BARC, Vizag. This shall be accomplished by regular presence of contractor's manpower at the site. Detailed scope is mentioned at the end of this document.**

S. No.	Item Description	Qty	Unit	Supply	Installation
1	Large screen Video Wall - SITC - Matrix of 9 number of 55" Displays - Bezel of Displays shall not exceed 1.8 mm -Panel Type: IPS with Direct LED Backlit or OLED - Resolution (minimum): 1,920 x 1,080 - Lifetime (minimum): 50,000 hrs - Brightness (Typical): 500 cd/m ² or more - Contrast Ratio (minimum): 1,100 : 1 - Viewing Angle (Horizontal/Vertical): 178° / 178° - Open Pluggable Specification (OPS) compatibility - Two or more ways shall be available to connect the matrix of Displays - Two or more input support shall be available for the Video wall. - 2 number of high fidelity speakers of 20 Watt or more shall be supplied. - In case any (number of) Video-wall controller, Signage Player Box, Set Back Box, etc is (are) required to fulfil above functionality, the same has to be included here. - Professional grade, suitable for 24/7 Operation. - Shall include all the wall mount accessories, required push pull brackets & required cables. - Additional Accessories to be supplied: Logitech Lift Vertical Ergonomic Mouse or equivalent, - Comprehensive on-site warranty of Three Years or more - Training for operation & configuration of Centram Monitoring station system to 8 department personnel shall be considered.	1	SET	60%	40%

2	<p>4MP IP PoE+ PTZ 45x Camera - SITC</p> <ul style="list-style-type: none"> - Image sensor: 1/2.8" 4MP or better - Frames per Second: 30 (configurable) - Video Compression: H.265 - ONVIF Profile T - 45x Optical zoom - Face detection, WDR 120dB, Built in Mic - 100 or more Presets, 5 Scan, 8 Tour, 5 Pattern - Shall support Starlight Technology or equivalent - IR Range: 300 Mtr. - PoE+ - memory slot with support of 256GB or more - Focus: Auto & Manual - IP67 - AES 256-bit Encryption, IP/MAC filtering - Alarm IN & OUT - Comprehensive on-site warranty of Two Years or more - STQC 	2	Nos	90%	10%
3	<p>2MP IP PoE+ PTZ 25x Camera - SITC</p> <ul style="list-style-type: none"> - Image sensor: 1/2.8" 2MP or better - Frames per Second: 30 (configurable) - Video Compression: H.265 - ONVIF Profile T - 25x Optical zoom or more - Face detection, WDR 120dB, - 100 or more Presets, 5 Scan, 8 Tour, 5 Pattern - Shall support Starlight Technology or equivalent - IR Range: 100 Mtr. - PoE+ - memory slot with support of 256GB or more - Focus: Auto & Manual - IP66 or better - AES 256-bit Encryption, IP/MAC filtering - Alarm IN & OUT - Comprehensive on-site warranty of Two Years or more - STQC 	4	Nos	90%	10%
4	<p>4MP IP PoE Motorised VariFocal Bullet camera - SITC</p> <ul style="list-style-type: none"> - Image sensor: 1/2.7", 4 MP or better - Dual Light Night vision - Video Compression: H.265 - ONVIF Profile T - Face detection, WDR 120dB, Built in Mic, 2.7mm to 12mm motorised zoom lens, - Resolution 2688(H) x1520 (V), - IR Range of 60 Mtr., Warm Light Range of 60 Mtr - memory slot with support of 256GB or more - Focus: Auto & Manual - IP67 - AES 256-bit Encryption, IP/MAC filtering - Alarm IN & OUT - Comprehensive on-site warranty of Two Years or more - STQC 	8	Nos	90%	10%

5	<p>4MP IR Automatic Number Plate Recognition Camera - SITC</p> <ul style="list-style-type: none"> - Image sensor: 1/1.8", 4 MP or better - recognize license plate numbers and letters - Motorized Varifocal - Night vision - Video Compression: H.265 - ONVIF Profile T - Motorcycle vehicle Violation Capture, - Speed Detection Range: 0 km/h–180 km/h - Face detection, WDR 140dB, Built in Mic, 2.7mm to 12mm motorised zoom lens, - Resolution 2688(H) x1520 (V), - IR Range of 30 Mtr or more - memory slot with support of 256GB or more - Focus: Auto & Manual - IP67 - AES 256-bit Encryption, IP/MAC filtering - Alarm IN & OUT - Comprehensive on-site warranty of Two Years or more - STQC 	4	Nos	90%	10%
6	<p>2MP IP PoE 3.6 mm lens Bullet camera - SITC</p> <ul style="list-style-type: none"> - Image sensor: 1/2.8", 2 MP - Night vision - Video Compression: H.265 - ONVIF Profile T - DWDR, - Resolution: 1920 (H) × 1080 (V) - IR Range of 30 Mtr. or more - IP67 - AES 256-bit Encryption, IP/MAC filtering - Alarm IN & OUT - Comprehensive on-site warranty of Two Years or more - STQC 	50	Nos	90%	10%
7	<p>64 Channel NVR with 4 number of 8 TB HDDs - SITC</p> <ul style="list-style-type: none"> - RAID 1, 5, & 6 support, - No. of channels: 64 - Hard disk bay supporting 8 x SATA HDD and each min. 8TB support - Installed HDDs: 4 number of 8 TB HDDs - Video out 2 x HDMI ports, 1 x VGA - Feature support: H.265 Compression, NVR shall also support standard features of CCTV monitoring such as video recording, motion detection, video backup etc., and all standard formats of video. - ONVIF Profile T - Two or more network interface - Accessories: wireless Keyboard and Mouse of standard make - Power Supply 230V AC, 50Hz - HDD Interface SATA, Surveillance HDD with high write capacity suitable for above NVR - HDD Cache / buffer memory 64 MB or more - BIS certification - Comprehensive on-site warranty of Three Years or more 	1	Nos	90%	10%
8	<p>16 Ch NVR with 2 number of 8 TB HDDs - SITC</p> <ul style="list-style-type: none"> - Video out 2 x HDMI ports, 1 x VGA - Installed HDDs: 2 number of 8 TB HDDs - Feature support: H.265 Compression, NVR shall also support standard features of CCTV monitoring such as video recording, motion detection, video backup etc., and all standard formats of video. - ONVIF Profile T - Comprehensive on-site warranty of Two Years or more - BIS certification 	2	Nos	95%	5%

9	8 Ch NVR with 1 number of 8 TB HDD - SITC - Video out 2 x HDMI ports, 1 x VGA - Installed HDDs: 1 number of 8 TB HDDs - Feature support: H.265 Compression, NVR shall also support standard features of CCTV monitoring such as video recording, motion detection, video backup etc., and all standard formats of video. - ONVIF Profile T - Comprehensive on-site warranty of Two Years or more - BIS certification	3	Nos	95%	5%
10	55" IPS Monitor for NVR - SITC - Ultra HD - LED backlit - Brightness: 500 cd/m ² - Surface haze: 25% - 30% - Operating hours: 24/7 - Support continuous power-off clock for no less than 7 days, and the overall working life is no less than 3 years - Included Accessories: Standard metal wall mount, Remote controller - Comprehensive on-site warranty of Three Years or more - Certification: BIS	1	Nos	95%	5%
11	32" IPS Monitor - SITC - 1366 x 768 or better resolution - HDMI input - Comprehensive on-site warranty of Three Years or more	6	Nos	95%	5%
12	Hardware Based Video Management Server - SITC - Licences for 500 cameras - This shall support storage of CCTV video of 150 TB or more, - RAID-5 Support - 4 x 1000Mbps ports - Option of data back-up through USB ports - number of USB ports: 3 or more - Includes 1 set of Standard make, ergonomic wireless keyboard & mouse - shall support ISCSI & SAMBA protocol - Pre-installed system hard-disc - Comprehensive on-site warranty of Three Years or more - Three year Software upgradation without any additional cost	2	Nos	80%	20%
13	10TB Surveillance Hard disks - SITC - Compatible to above mentioned Hardware Based Video Management Server - Enterprise grade - 5 years OEM warranty	33	Nos	95%	5%
14	48 Port Rack mount Sliding Fibre optic drawer (LIU) - SITC - 48 Port, 19" Rack mount Sliding Fibre optic drawer LIU - Fully Loaded - Accessories: all mounting accessories, pigtails, front LC connectors - Sliding Drawer height: 1 U - Endurance (500 insertions) maximum increase of 0.2 dB - Standard Should meet EN50173 and ISO/IEC 11801 operating specifications - Pigtail Single mode OS1, LSZH, 1 meter, conform to IEC, ANSI/TIA and Telcordia standards, Crush resistance 500 (N/100 mm) - Pigtail Attenuation in dB 0.38 @ 1310 nm/0.25 @ 1550 nm - Return Loss - IEC 61300-3-6 55/65dB - Construction Material Powder coated metal, anti corrosion.	4	Nos	80%	20%

15	48 Core Single Mode Armoured Fiber optic cable - SITC - 48 Core Single mode OS1/OS2 Multi Tube Dry Core Sheath Armoured Optical fibre Cable - Confirming to ITU-T G.652 - Maximum Cabled Fiber Attenuation dB/Km 1310nm : 0.35db, 1550nm : 0.22db & 1625nm : 0.24db - Tubes: Multi tube, 4 Tubes minimum, Loose tube with Thixotropic Gel to prevent water ingress, - Central Strength Member Fibre Reinforced Plastic (FRP) - Inner Sheathing: UV Proof Black MDPE Sheath IEC 60811, IEC 60708 - Moisture Barrier: Water Blocking Material is added below Armouring to prevent water ingress - Armouring: ECCS Tape for tensile and protection against Rodents 0.15 mm + 0.01 mm Thickness - Outer Sheathing: UV Proof Black MDPE Sheath 1.5 mm Minimum Thickness - Maximum Tensile strength: 1800 N (Short term) 1200 N (Permanent) - Crush Resistance: 3000 N /100x100 mm - Impact Strength: 25 Nm - Polarisation mode dispersion coefficient ≤ 0.1 ps/vkm - Effective group index at 1310 nm: 1.467 - Core - cladding concentricity error ≤ 0.5 μ m - RAYLEIGH Backscatter @1310 nm -79 dB min	600	M	70%	30%
16	42 U 19" Network / Server Rack - SITC - 800 (w) x 1000(d) mm, - Conforms to DIN 41494 or equivalent standard - Front: Lockable Toughened Glass Door - Rear: Lockable Steel Door – Plain/ Vented/ Perforated - Anti-Corrosive Powder Coated - 16 port PDU, 4 Fans, 6 horizontal cable manager, 1 Vertical cable manager, Mounting hardware, - Eye bolts for lifting the rack, Earth bolt	1	Nos	90%	10%
17	Splicing of OFC cores	300	Nos	0%	100%
18	24 Port SFP L2 Managed Fiber Switch - SITC - with 4x10G SFP slots, 20x gigabit SFP Ports, 4 Gigabit SFP/RJ45 ports - Switching capacity 128Gbps with 10Giga Fiber Modules - SFP modules of 20 Km range: 8 number shall be supplied - Comprehensive on-site warranty of Three Years or more	2	SET	95%	5%
19	24 Port Network Switch with PoE+ & 4 SFP modules of 20Km populated - SITC - Manageable Layer 2 - 24 x Gigabit (1000 Mbps) PoE+ Ethernet ports - 4 x Gigabit Ethernet/SFP ports, Populated with duplex 4 SFP modules of 20Km - PoE power budget: 280 watt or more - MAC table: 16K entries or more - Switching capacity: 45 Gbps or more - Packet forwarding rate: 35 Mpps or more - Surge & Lightening protection for power supply & all ethernet ports shall be available - Rack mount accessories - Comprehensive on-site warranty of Three Years or more	2	Nos	95%	5%
20	8 Port PoE Network Switch with 2 SFP modules populated - SITC - Managed PoE - Total 10 Port Switch with 8 x 10/100/1000Mbps PoE ports and 2 Giga bit SFP Ports - PoE Budget: 80 Watt or more - Comprehensive on-site warranty of Three Years or more	10	Nos	95%	5%
21	10KVA Online UPS with 3 Phase Input, 1 Phase Out, - SITC - Efficiency: 90% or more in Battery mode as well as AC mode - Pure sine wave - inbuilt over voltage cut off device and temperature protection, - Protection: Overload, Short circuit, Battery drain, input & output surge protection - with 20 numbers of 65AH rated external batteries, Rack & links - Comprehensive on-site warranty of Two Years or more	1	SET	80%	20%

22	6U Wall mount network Rack - SITC - Confirming to IS 9606-1980 - Front door: Toughened glass 4mm thick - Two cable manager & 1 power distribution board of minimum 4 power outlet. - One or more Fan - Rack consist of standardized multifolded, welded and powder coated sheet steel frame structure. Top and bottom cover along with side panel is screwed onto the front and rear frame which forms the basic structure for the wall mount.	7	Nos	80%	20%
23	6U Weather proof network Rack - SITC - Confirming to IS 9606-1980 - Front door: Toughened glass 4mm thick - Two cable manager & 1 power distribution board of minimum 4 power outlet. - One or more Fan - Rack consist of standardized multifolded, welded and powder coated sheet steel frame structure. Top and bottom cover along with side panel is screwed onto the front and rear frame which forms the basic structure for the wall mount. - Rust Proof coating - Pole mount & wall mount	2	Nos	80%	20%
24	Cat-6 SFTP Cable - SITC - Shield : Aluminium / Polyester Foil Tinned copper Braiding - 23 AWG solid bare Pure Copper conductor material, - Termination with weather proof long life tagging - FR-PVC Sheath - Insulation: HDPE - Mutual Capacitance: < 5.6nF/100m - Confirming to : ANSI/TIA 568 C.2	1500	M	70%	30%
25	Cat-6 UTP Cable - SITC - 23 AWG solid bare Pure Copper conductor material, - Termination with weather proof long life tagging - FR-PVC Sheath - Insulation: HDPE - Mutual Capacitance: < 5.6nF/100m - Confirming to : ANSI/TIA 568 C.2	1200	M	70%	30%
26	LC-LC patch Cord - 1 Mtr - single-mode G652D,G657A,G657B - LC-LC, Duplex - Compliant with TIA/EIA-568-C - Return loss: Greater than -55dB - Insertion loss: <0.3dB maximum loss	60	Nos	100%	0%
27	LC-LC patch Cord - 5 Mtr - single-mode G652D,G657A,G657B - LC-LC, Duplex - Compliant with TIA/EIA-568-C - Return loss: Greater than -55dB - Insertion loss: <0.3dB maximum loss	20	Nos	100%	0%
28	LC-LC patch Cord - 30 Mtr - SITC - single-mode G652D,G657A,G657B - LC-LC, Duplex - Compliant with TIA/EIA-568-C - Return loss: Greater than -55dB - Insertion loss: <0.3dB maximum loss	2	Nos	100%	0%

29	<p>CCTV Client PC with Network Monitoring software - SITC</p> <ul style="list-style-type: none"> - Desktop Computer with 24" IPS monitor for configuration & monitoring - Windows 10 or 11 pro - Processor: Release date Q1-2024 or later, L2 + L3 Cache: above 20 MB, 6 or more cores, in-built graphics - RAM: DDR5, 32 GB (16 GB x 2Kit), 5600MHz or faster, with heat sink - Motherboard: NVMe RAID 1 Support, 10 or more VRM phase: , heatsink for VRM & NVME SSD shall be present, USB type C port, PCIe Gen5, - SSD: 1 TB, 2 number configured in to RAID-1, TBW: 600 or more, MTBF: 3 M Hr or more - Cabinet: 4 no. Pre-installed Fans, 1 x USB 3 port, 1 x USB type-C - SMPS: 80+ Gold 650Watt or more, - Wireless Keyboard and Mouse Combo - CPU Cooler: 240 mm Liquid cooler - Dual LAN Port - Network monitoring software like Zabbix or equivalent to be installed and configured to monitor the local network. - Comprehensive on-site warranty of Three Years or more 	2	Nos	95%	5%
30	<p>MS Pole for Camera Mounting - Type 1 - SITC</p> <ul style="list-style-type: none"> - Supply & Installation - GI Rust material, Rust proof PU Painting Firoji-Blue colour - Height above ground 14 Feet - RCC Concrete foundation: minimum 30" (D) x 18" (L) x 18" (W). The pole shall be mounted on base by J bolts. - Cable entry points at top & bottom. - Tapered shape, bottom dia 6" or more - Wall thickness 4 mm - Polycarbonate (or similar) Bird guard to be provided for the installed camera on the pole 	10	Nos	70%	30%
31	<p>MS Pole for Camera Mounting - Type 2 - SITC</p> <ul style="list-style-type: none"> - Supply & Installation - GI material, Rust proof - Height above ground 8 meter - 135 mm dia at the base, 70 mm dia at the top. - Sheet thickness of the pole shall be 4 mm. - Base plate of size 260 mm x 260 mm x 16 mm shall be attached to the base of the pole for mounting. - RCC Concrete foundation: minimum 1.2 meter depth, Base shall be around 3 feet (L) x 3 feet (W) x 1 feet" (D). Column shall raise from the base, till the height of 1 feet above ground level. - The pole shall be mounted on base by J bolts. - Cable entry points at top & bottom. - Tapered shape, bottom dia 6" or more - Wall thickness 4 mm 	4	Nos	60%	40%
32	<p>Flexible conduit - SITC</p> <ul style="list-style-type: none"> - Inner dia 35± 2 mm - GI Metallic with PVC sheath, - Heavy duty, - Rust proof, - Supply & Laying 	200	M	90%	10%
33	<p>RJ45, Cat-6 Male jack for Cat-6 UTP - SITC</p> <ul style="list-style-type: none"> - 50 Micron Gold plated contacts - Packet of 100 nos. 	500	Nos	100%	0%
34	<p>RJ45, Cat-6 Male jack for Cat-6 SFTP cable - SITC</p> <ul style="list-style-type: none"> - 50 Micron Gold plated contacts - Metal outer enclosure for connecting to shielding of Cat-6 SFTP cable. -Packet of 100 nos. 	500	Nos	100%	0%
35	<p>RCC Hume pipe 300 dia, 2 mtr / 6 feet length - SITC</p> <ul style="list-style-type: none"> - Socket at one end, - 300 mm OD, confirming to IS 458, NP3 class Supply & Installation 	20	Nos	65%	35%

36	6 core Single mode Fiber optic cable - SITC - 6F single mode optical fiber cable - Attenuation @ 1310nm Db/Km : < 0.34 (max) - Attenuation @ 1550nm db/km : < 0.22 (max) - Attenuation @ 1380 - 1386nm db/km : < 0.31 (max) - Point discontinuity db : < 0.1 - Cut-off wavelength nm : < 1260 - Chromatic dispersion @ 1310 nm ps/nm x km : < 3.5 - Chromatic dispersion @ 1550 nm ps/nm x km : < 18 - water blocking gel - Minimum installation bend radius: 310 mm	2000	M	50%	50%
37	3 core 1.5 sq mm Power cable - SITC -Conductor material: Plain annealed high conductivity flexible copper -Conductor size : 1.5 sq.mm -Insulation material : FR PVC -Insulation thickness: 0.6 mm - Current carrying capacities : 16A - Sheath material : Extruded FR-LSH PV -Sheet thickness: 0.9 mm or more	500	M	70%	30%
38	HDPE Conduit 40 mm - SITC -Size : 40 mm OD ± 0.4mm -Wall Thickness: 1.9 mm to 2.3 mm - Yield Strength : 15 Mpa - Pressure rating: 4.2 kg/cm ² , Shall show no signs of localized swelling, leakage or weeping, and shall not burst during test	1200	M	70%	30%
39	Stainless steel outdoor enclosure - SITC - Enclosure material: Stainless steel - 304, all-round foamed- in PU seal - Dimensions (±5%): 300 (Weight) x 200 (Width) x 155 (Depth) - Cooling Fan: 230 V operating Fan - Sections: 2 Sections, one for UPS and other for network switch - Powder coated / stainless steel - 2 pole MCB - Key Locking - Mounting: Pole mount and wall mount accessories shall be available, - Mounting plate: 150 mm x 250 mm (approx), thickness: 3 mm or more - Protection category: NEMA 4X - 5 Amp socket PDU	10	Nos	80%	20%
40	Armoured electrical cable 3C x 1.5 sq mm - SITC - Conductor: 1.5 sq mm, Class-5 flexibility, Stranded (approx 0.25 mm dia strand) Tinned Copper conductor, AS PER BS EN 50288-1 - Insulation: Extruded-PVC TYPE D, FRLS Cable 500 V AS PER BS EN 50290-2-21, Thickness 0.45 mm ± 10%, contrast colour for each core of the pair. - Inner sheath: 0.5 mm Extruded-PVC ST2 (Flexible), FRLS, - Outer Sheath: minimum 0.5 mm Extruded-PVC ST2 (Flexible), FRLS, Rodent repellent additives - Armour: GI round wires / GI strips - Laying by wall clamping with saddle, max distance between clamps 500 mm. - Ferruling & Lugging (Copper) of each cable termination with documentation.	2000	M	70%	30%
41	Earth Excavation - Manual	200	CuM	0%	100%
42	Fiber Optic Joint Termination Enclosure Box with OFC Splicing - SITC • Total Fiber count: 96 • IP rating: IP-68 • number of splice trays: 4 (ABS material) • cable entry sealing: heats shrink sleeves • Static load capability: 250kg • Material: PP (polypropylene) • Accessories: locking mechanism, grounding kit and valve	10	Nos	0%	100%

43	PVC Conduit with Accessories - SITC - heavy duty round rigid conduits - 25mm Dia, - 2 mm wall thickness - Socket at one end - Confirming to IS:9537(Part-3) - Accessories like L bend, T joint, Couplers, etc as per site requirements	600	M	70%	30%
44	Door Access Control System - SITC - Biometric Access - EM Lock of 500 Lbs or more - Communication : TCP/IP. - Suitable to single side opening single door. - SS Exit switch - Power supply: 230 VAC,	1	Nos	50%	50%
45	Annual Operation & Maintenance of CCTV surveillance system in BARC, Vizag Scope & conditions are given below	2	Job	100%	0%

Specifications

Augmentation, Operation & Maintenance of CCTV surveillance system in BARC, Vizag
Detailed Scope regarding Bi-Annual Operation & Maintenance of CCTV surveillance system in BARC, Vizag, Item serial no. 45 above
Two year service (Operation & Maintenance of CCTV surveillance system) in total shall be provided. This job can be extended for Three more years on mutual agreement without changing the rate.
Project Site/s: 1. BARCV main site, Dosuru Post, Near Nagavaram Junction, 531011 2. Anu Vihar township, Maduturu Sub P.O. 531011 3. City Plot (Visakha Sadan & Meghadri Bhawan), Behind Port Stadium, Satya Sai Nagar, Ganesh Colony, Vizag, 530024
Scope of work: 1. Operation: a. Daily monitoring b. Cleaning and adjustment of Cameras c. Backup of Database d. User creation/deletion/role assignment/etc. e. Addition / deletion of new Cameras f. Daily log g. Periodic reports /documents on as and when required basis h. Installation and configuration of equipment i. Providing weather proof easily readable tags 2. And Maintenance: a. Fault identification in camera / communication cable / NVRs / network switch / etc. b. Repair or replacement of faulty equipment 3. Laying of cables/ conduits etc: The man power can be utilized for laying of cables, conduits, etc. Only work & arrangements of tools shall be under this scope, cable, conduits, etc which is to be laid, shall be provided by BARC.
Existing system overview: CCTV surveillance system in BARC, Vizag presently consists of around 220 camera, 25 PoE network switches, and 12 NVRs, spread across various locations in three sites mentioned above. The make and models of above equipment is heterogeneous. New devices are being regularly added to the system, which shall also be considered under this line item.

Shift timings	At present work is going on in general shift from 9 AM to 6 PM on working days (Monday to Saturday), as and when required on Holidays as directed by EIC
Qualification of Technician	ITI or equivalent, Electrical / Electronics / Instrument technician with knowledge of IP based CCTV system, standard practices of communication cable laying & basics of data networking. At least one year experience.
Staff strength to be deployed	Two (2) number
List of Tools and equipment's to be deployed by the contractor. The tools shall be returned after completion of contract period. The tool shall be deployed at the four major locations (major locations are as described in brief scope of work):	
LAN tester	1 No. for BARCV main site & Anu Vihar, 1 No. for City plot
IP CCTV camera tester	1 No.
Multimeter	1 No. for BARCV main site & Anu Vihar, 1 No. for City plot
Torch 5 Cell	1 No. for BARCV main site & Anu Vihar, 1 No. for City plot
Drill machine, screw drivers, pliers, blower, spanner set, ring spanner sets, Vacuum suction pump, air blower, etc.	1 Set for BARCV main site & Anu Vihar, 1 Set for City plot
Self-supporting Ladders	1 No. for BARCV main site & Anu Vihar, 1 No. for City plot
Rain coat	2 No. for BARCV main site & Anu Vihar, 2 No. for City plot
Umbrella	2 No. for BARCV main site & Anu Vihar, 2 No. for City plot
Weather proof tags, easily visible from 10 feet	1 for Each equipment
Recovery at following rate shall be made from bill in case inadequate deployment of manpower/tools/equipment:	
Recovery on account of inadequate staff	Rs. 700/- per day per person.
Recovery on account of inadequate tools / equipment's	@ Rs. 200/- per equipment per demand or @ Rs. 200/- per equipment per shift whichever is lower
In case of failure of any component under warranty (supplied under this work), the replacement item (or equivalent) shall be provided within 48 hours, Failing to which shall attract penalty as follows:	0.3% cost of the component (incl. GST) per day. Max recovery: cost of the component incl. GST
Facilities to be provided by department.	Nil

Provisions within the scope of work of the contractor:

Following are only indicative list for the contracting firm whose cost provisions should be made into the quoted cost as per tender price bid schedule. However contracting firms must note that department shall not provide any facility apart from those listed as 'Facilities to be provided" above.

1. Conveyance to site.
2. Accommodation.
3. Insurance (medical, accident).
4. Police verification of staff to be deployed.
5. Dress/ Uniform.
6. Safety/ monsoon gears.
7. Height pass of staff to be deployed

Additional Notes:

1. Items with better than above mentioned specifications shall be acceptable.
2. Every Device & every connection should have proper tag, weather proof & long lasting.
3. Cost of installation, configuration, testing, commissioning & warranty shall be considered in the quoted price for each of BoQ item.
4. BARC personnel shall carry out Pre-dispatch inspection of vital system components at manufacturer's site.