

संख्या. पी-63013/154/02/2025/मोड-1/सीसुबल 3649-54

भारत सरकार, गृह मंत्रालय  
महानिदेशालय सीमा सुरक्षा बल  
(रसद निदेशालय: आधुनिकीकरण सैल)  
(Email-comdtord@bsf.nic.in)  
(Fax: 011-24367683)

ब्लाक संख्या . 10,  
सीजीओ काम्पलैक्स,  
लोधी रोड, नई दिल्ली-03  
दिनांक 01 सितम्बर 2025

सेवा में,

महानिदेशक:- आसाम राईफलस (through LOAR), केन्द्रीय औद्योगिक सुरक्षा बल,  
केन्द्रीय रिजर्व पुलिस बल, भारतीय तिब्बत बोर्डर पुलिस, सशस्त्र सीमा बल,  
राष्ट्रीय सुरक्षा गार्ड एवं पुलिस अनुसन्धान एवं विकास ब्योरो

विषय: अनुमोदित गुणात्मक आवश्यकता / परीक्षण निर्देशों का प्रेषण

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवं महानिदेशक सीमा सुरक्षा बल द्वारा अनुमोदित **"Electronic Surveillance of Vulnerable Patches Project (Containing 39 Equipment)"** उपकरण के संसोधित गुणात्मक आवश्यकता/परीक्षण निर्देशों को आपकी अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

संलग्न : उपरोक्तनुसार

आनन्द सिंह  
(आनन्द सिंह तक्षक) 1.9.25  
उप महानिरीक्षक (रसद)

प्रतिलिपि :-

1. तकनीकी निदेशक  
The Technical Director  
राष्ट्रीय सूचना-विज्ञान केन्द्र, नोर्थ ब्लॉक,  
गृह मंत्रालय, नई दिल्ली  
NIC, North Block, MHA  
New Delhi (द्वारा ई-मेल)  
(ई-मेल पता : mpsugandhi@nic.in)  
: आपसे अनुरोध है कि उक्त उपकरण के गुणात्मक आवश्यकता / परीक्षण निर्देशों जोकि गृह मंत्रालय की वैबसाईट (पुलिस आधुनिकीकरण संभाग ) के गुणात्मक आवश्यकता पोर्टल में मशीनरी एवं उपकरण के साथ निगरानी उपकरण वर्ग के अन्तर्गत क्रमांक संख्या-121 पर पहले से अपलोड है के स्थान इस पत्र के साथ संलग्न संशोधित गुणात्मक आवश्यकता/ परीक्षण निर्देशों को अपलोड करने का श्रम करें।
2. SO (IT), North Block, MHA  
(Through E-mail)  
(E-mail address: [soit@nic.in](mailto:soit@nic.in))  
: कृपया उपरोक्तानुसार कार्यवाही करने का श्रम करें।
3. Sh. Samarth Sharma,  
Director Nodal Officer for MHA GeM,  
3rd Floor, Jeevan Bharti Building  
Conaught Lane, Janpath Cannaught  
Place, N/ Delhi-110001  
E-mail:[directorcategory13@gem.gov.in](mailto:directorcategory13@gem.gov.in)  
For info with request to upload the approved QRs & TDs of "Electronic Surveillance of Vulnerable Patches (Containing 39 Equipment)"-Revision on GeM Portal. Copy of QRs & TDs is attached with this letter.
4. तकनीकी विंग, सीमा सुरक्षा बल  
: कृपया उक्त उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देशों को सीमा सुरक्षा बल की वैबसाईट पर अपलोड करने का श्रम करें।
5. संक्रिया निदेशालय (सी0आई0बी0एम0एस0 सैल)  
E-mail:[cibms.cell@bsf.nic.in](mailto:cibms.cell@bsf.nic.in)  
: आपके यूओ संख्या-494 दिनांक 26 मई 2025 के सन्दर्भ में अनुमोदित "Electronic Surveillance of Vulnerable Patches (Containing 39 Equipment)" उपकरण के संसोधित गुणात्मक आवश्यकता/ परीक्षण निर्देशों को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित जाता है।
6. फाईल।


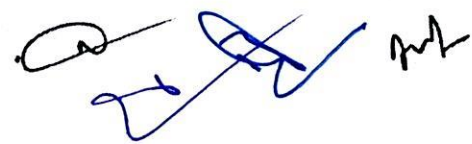
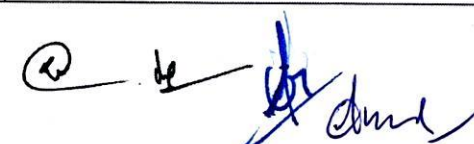


## 1. Revised QRs &amp; TDs of PTZ Camera with IR for Electronic Surveillance of Vulnerable Patches Project Phase-II

S / No.	Parameter	Value/specification	Trial Directives
1.	Image Sensor Type	CMOS	OEM Certification required.
2.	Image Sensor Size (Min.)	0.5 inch or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
3.	Camera Image Sensing Capacity (Picture Mode)	4 MP or Better	OEM Certification required.
4.	Resolution	2K (2560 × 1440)	To be Physically Checked by Board of Officers & OEM Certification required.
5.	Day & Night Capable	Yes	To be Physically Checked by Board of Officers.
6.	IR Illumination Range (Mtr.) in fair weather Conditions.	Illumination Distance 400 m (IR) or Better With or Without Zoom	To be Physically Checked by Board of Officers.
7.	Frame Rate (fps)	25 or Better	To be Physically Checked by Board of Officers.
8.	Video Compression	H.265 or Better	OEM Certification required.
9.	Video Streaming	Triple Compressed Stream or better	To be Physically Checked by Board of Officers & OEM Certification required in this regard.
10.	Audio support	Bi-directional	To be Physically Checked by Board of Officers.
11.	Minimum Illumination for capturing Colour Image	.005 Lux or Lower	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
12.	Wide Dynamic Range	120 dB or Better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
13.	Signal to Noise Ratio (dB)	55 dB or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
14.	On Board SD Card Support (Removable)	Yes	To be Physically Checked by Board of Officers.



**1. Revised QRs & TDs of PTZ Camera with IR for Electronic Surveillance of Vulnerable Patches Project Phase-II**

15.	Surveillance grade SD card memory (GB) (to be provided with the camera)	256 or higher	To be Physically Checked by Board of Officers.
16.	Installation Type	Outdoor	To be Physically Checked by Board of Officers.
17.	Material of housing construction	Aluminium	To be Physically Checked by Board of Officers & OEM certification required in this regard.
18.	Protection	IP 67	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
19.	Vandal Resistant Housing	IK10 or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
20.	Mounting Bracket	Pole Mounted	To be Physically Checked by Board of Officers.
21.	Power Input	12/ 24VDC/24VAC (With adapter to be provided), PoE	To be Physically Checked by Board of Officers.
22.	Operating Temp. Range in Celsius.	-10 <sup>0</sup> to +60 <sup>0</sup> or Wider Range	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
23.	Warranty (Years)	2	MAF (Manufacturer Authorisation Form) to be submitted and same will be checked by Board of Officers.
24.	Time For Replacement of Defective Product During Warranty Period (Hours)	72	Undertaking to be given by Bidder / Firm
25.	BIS Registration for Safety General requirements as per IS 13252 (Part 1) or Latest	Yes	BIS registration certification to be submitted
26.	Lens Type	Motorized varifocal	To be Physically Checked by Board of Officers.
27.	Type of Camera Housing	Dome Type	To be Physically Checked by Board of Officers.
28.	IP Camera	Yes	To be Physically Checked by Board of Officers.



1. Revised QRs & TDs of PTZ Camera with IR for Electronic Surveillance of Vulnerable Patches Project Phase-II			
29.	PTZ Camera	Yes	To be Physically Checked by Board of Officers.
30.	Optical Zoom (Minimum)	36X or better	To be Physically Checked by Board of Officers
31.	Digital Zoom (Minimum)	15 X or better	To be Physically Checked by Board of Officers.
32.	ONVIF Support	S,G,M & T Profile	ONVIF certificate to be submitted by OEM/Vendor and same to be verified by Board of Officers from ONVIF platform.
33.	Certification	STQC-ER,BIS,FCC/CE/UL	Relevant Certificate to be submitted by OEM/Vendor.
34.	Pan and Tilt Mechanism: Motorized Pan and Tilt unit with variable speed control.	a)Pan (Azimuth) range/ Pan speed	All parameter to be Physically Checked by Board of Officers.
		b)Tilt (Elevation)	
		c)Pre-set	
		d)Pattern	
		e) Scheduled Task/Idle Motion	
35.	API/SDK	Firm should able to integrate PTZ camera with 3 <sup>rd</sup> party command and control & VMS software . To be provided in optical storage.	An undertaking in this regard should be provided by the firm.



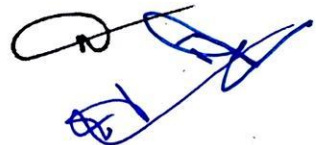









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**1. Revised QRs & TDs of PTZ Camera with IR for Electronic Surveillance of Vulnerable Patches Project Phase-II**

36.	Intelligent Video Analytics	<p>i) Intrusion detection (User should be able to define the area of interest, where alerts are required and Non-Interest area, where alerts are not required).</p> <p>ii) Smart motion Detection.</p> <p>iii) Virtual trip Line:-</p> <p>a) Virtual lines drawn by user in the field of view of camera, crossing of which, alarm will be generated.</p> <p>b) Generation of alerts on crossing of virtual lines from user defined direction of movement.</p> <p>c) Virtual trip lines able to draw at a distance of 50 Mtrs or more from camera end.</p> <p>iv) Classification of target through analytics feature (Alarm should be generated on human movements only).</p> <p>v) Smart Auto Tracking.</p> <p>vi) Camera Tempering and Black out.</p> <p>vii) All above video analytics features should be alarm supported at camera end and monitoring centre through hooter.</p>	To be Physically Checked by Board of Officers.
37.	Alarm output port for electronic hooter.	<p>Yes</p> <p>(Trigger generated by camera should be supported by electronic hooter).</p>	To be physically checked by board of officers.

1. Revised QRs & TDs of PTZ Camera with IR for Electronic Surveillance of Vulnerable Patches Project Phase-II					
38.	Operational Range In clear weather day light condition.		Operational Range In clear weather day light condition (Human target) with Zoom		Move a person, for detection, recognition and identification during clear day light condition. Note: Detection means: - Ability to detect presence of human. Recognition means: - Ability to differentiate between human and animal. Identification means:-Ability to identify the particular person. To be physically checked by BOO
			Detection	Recognition	Identification
			Up to 1500 mtrs	Up to 700 mtrs	Up to 300 mtrs
39.	EIS (Electronic image Stabilization)	The image of the camera should be stable in case of vibration generated due to weather conditions or manually			To be Physically Checked by Board of Officers.
40.	Adaptive IR	Intensity / focus of IR illuminator will automatically change / adjust as per zoom movement of camera.			To be Physically Checked by Board of Officers.

**Appendix-"A-1"**

2. Revised QRs & TDs of Bullet Camera with IR for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II			
S/No.	Parameter	Values/ Specification	Trial Directives
1.	Image Sensor Type	CMOS	OEM Certification required.



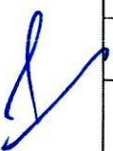

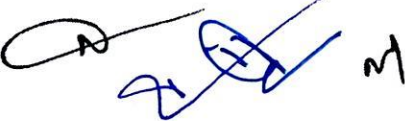











**2. Revised QRs & TDs of Bullet Camera with IR for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

2.	Image Sensor Size (Minimum)	1/2.8" or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
3.	Camera Image Sensing Capacity (Picture Mode)	4 MP or Better	OEM Certification required.
4.	Resolution	2K (2560×1440)	To be Physically Checked by Board of Officers & OEM Certification required.
5.	Day & Night Capable	Yes	To be Physically Checked by Board of Officers.
6.	IR Illumination Range (Meter.) in fair weather Conditions.	100 Mtr or better	To be Physically Checked by Board of Officers.
7.	Focus Mode	Motorized Varifocal	To be Physically Checked by Board of Officers.
8.	Frame Rate (fps)	25 or Better	To be Physically Checked by Board of Officers.
9.	Video Compression	H .265 or better	To be Physically Checked by Board of Officers.
10.	Video Streaming	Triple Compressed Stream or better	To be Physically Checked by Board of Officers.
11.	Audio Support	Bi-directional	To be Physically Checked by Board of Officers.
12.	Minimum Illumination for capturing Colour Image	.005 Lux or lower	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
13.	Wide Dynamic Range	120 dB or Better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
14.	Signal to Noise Ratio	55 or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
15.	On Board SD Card Support (Removable)	Yes	To be Physically Checked by Board of Officers.
16.	Surveillance grade SD Card Memory(GB) (to be provided with the camera)	256 or better	To be Physically Checked by Board of Officers.



**2. Revised QRs & TDs of Bullet Camera with IR for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

17.	Installation Type	Outdoor	To be Physically Checked by Board of Officers.
18.	Material of The Housing Construction	Aluminum	To be Physically Checked by Board of Officers.
19.	Protection	IP 67	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
20.	Vandal Resistant Housing	IK10 or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
21.	Mounting Bracket	Pole Mounted	To be Physically Checked by Board of Officers.
22.	Power Input	12/ 24 V DC/ 24VAC (With adapter to be provided), PoE	To be Physically Checked by Board of Officers.
23.	Operating Temp. Range in Celsius.	-10 <sup>0</sup> to +60 <sup>0</sup> C or better Range	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
24.	Warranty (Years)	2	MAF (Manufacturer Authorisation Form) to be submitted and same will be checked by Board of Officers.
25.	Time For Replacement Of Defective Product During Warranty Period (Hours)	72	Firm / Bidder to submit the Undertaking.
26.	BIS Registration for Safety General requirements as per IS 13252 (Part 1 ) or Latest	Yes	BIS registration certificate to be submitted.
27.	Type of Camera Housing	Bullet Camera	To be Physically Checked by Board of Officers.
28.	IP Camera	Yes	To be Physically Checked by Board of Officers.
29.	Digital Zoom (Minimum)	10 X or better	To be Physically Checked by Board of Officers.

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**2. Revised QRs & TDs of Bullet Camera with IR for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

30.	ONVIF Support	S,G,M & T Profile	ONVIF certificate to be submitted by OEM/Vendor and same to be verified by Board of Officers from ONVIF platform.
31.	Certification	STQC-ER,BIS,FCC/CE/UL	Relevant certificate to be submitted by OEM/Vendor.
32.	API/SDK	Firm should able to integrate bullet camera with 3rd party command and control & VMS software . To be provided in optical storage.	An undertaking in this regard should be provided by the firm.
33.	Intelligent Video Analytics	i) Intrusion detection (User should able to define the area of interest, where alerts are required and Non-Interest area, where alerts are not required) ii) Smart motion Detection. iii) Virtual trip Line:- a) Virtual lines drawn by user in the field of view of camera, crossing of which, alarm will be generated. b) Generation of alerts on crossing of virtual lines from user defined direction of movement. c) Virtual trip lines able to drawn at a distance of 50 Mtrs or more from camera end. iv) Classification of target through analytics feature (Alarm should be generated on human movements only)	To be Physically Checked by Board of Officers.

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**2. Revised QRs & TDs of Bullet Camera with IR for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

		v) Camera Tempering and Black out. vi) All above video analytics features should be alarm supported at camera end and monitoring centre through electronic hooter.	
34.	Alarm output port for electronic hooter.	Yes (Trigger generated by camera should be supported by electronic hooter).	To be physically checked by board of officers.
35.	EIS(Electronic image Stabilization)	The image of the camera should be stable in case of vibration generated due to weather conditions or manually	To be Physically Checked by Board of Officers.

**Appendix-"A-2"**

**3. Revised QRs & TDs of NVR with 16 Ports Input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

S/N	Parameter	Values/ Specification	Trial Directives
1.	Type of Recording Device	NVR	To be Physically Checked by Board of Officers.
2.	IP Camera Support	Yes	To be Physically Checked by Board of Officers.
3.	PTZ Camera Control Support	Yes	To be Physically Checked by Board of Officers.













**3. Revised QRs & TDs of NVR with 16 Ports Input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

4.	Housing Construction	Aluminium	To be Physically Checked by Board of Officers.
5.	Mounting	Rack Type	To be Physically Checked by Board of Officers.
6.	Rack Mount configuration	1.5 U or better	To be Physically Checked by Board of Officers
7.	Capability of Recorder To Work With Other Makes of CCTV Cameras (ONVIF Support)	Yes (S,G, M & T profile)	To be Physically Checked by Board of Officers.
8.	No. of Video Input Channel	16	To be Physically Checked by Board of Officers.
9.	No: of Video output Channel (Min)	02	To be Physically Checked by Board of Officers.
10.	Recording Resolution.	4K (3840 X 2160)	To be Physically Checked by Board of Officers & OEM Certification required.
11.	Warranty (Years)	02	MAF (Manufacturer Authorisation Form) to be submitted and same will be checked by Board of Officers.
12.	Time for Replacement of Defective Product During Warranty Period(Hrs)	72	OEM / Vendor Self Certification required
13.	Supported Video Compression Technique	H.265 or better	OEM Certification required.
14.	Total Number of simultaneous local Views (Minimum)	02	To be Physically Checked by Board of Officers.
15.	Recording speed for all channels (fps)	30 or Better	To be Physically Checked by Board of Officers.
16.	Minimum Through put (Mbps)	192 or better	OEM Certification required.



**3. Revised QRs & TDs of NVR with 16 Ports Input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

17.	Type of Encryption	HTTPS (SSL/TLS)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted/ required.
18.	Alarm Support	Yes	To be Physically Checked by Board of Officers
19.	Operating System Supported	Windows/Linux	To be Physically Checked by Board of Officers.
20.	Video Content Analytics (VCA)	NVR should support all video analytics of PTZ/Bullet camera and able to generate alarm.	To be Physically Checked by Board of Officers
21.	Supported Interface	Ethernet, HDMI, USB	To be Physically Checked by Board of Officers.
22.	Physical Layer of Ethernet	10/100/1000 Base TX	OEM / Vendor Self Certification required
23.	BIS Registration for safety general requirement as per IS: 13252 (Part 1) : latest	Yes	BIS Registration certificate to be submitted.
24.	Operating Temperature ( in degree Celsius)	-10° to +55 °C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted
25.	Relative Humidity Non Condensing (in percentage)	90 %	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
26.	Power Input	12VDC,230VAC±10 %, 50 Hz	To be Physically Checked by Board of Officers.
27.	Internal Hard Drive Interface	SATA-III	To be Physically Checked by Board of Officers.
28.	Number of Hard Disks (Inclusive in the scope of supply)	02	To be Physically Checked by Board of Officers.
29.	Storage Capacity of each Hard Disk (TB)	10	To be Physically Checked by Board of

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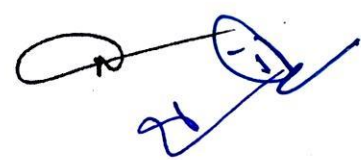






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**3. Revised QRs & TDs of NVR with 16 Ports Input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

			Officers.
30.	Number of Hard Disks supported (Minimum)	02	In this regard Firm/Bidder will Submit OEM Certificate.
31.	Suitable adapter To Be Supplied to Make The Equipment Work On 230 V AC $\pm$ 10 %, 50 Hz	Yes	To be Physically Checked by Board of Officers
32.	Video recorder supports recording on NAS Directly	Yes	OEM / Vendor Self Certification required
33.	Live camera Grid	Selectable 1/4/8/16	To be Physically Checked by Board of Officers.
34.	Resolution support	6MP (4K or better)	To be Physically Checked by Board of Officers.
35.	Optical mouse and Joystick with twisting return to centre head (01 No. each)	Yes	To be Physically Checked by Board of Officers
36.	Generation of Alarm	i) Beep sound generated in C-2 Centre. ii) Video of particular camera should be popped up on the screen. iii) Audio alert also through electronic hooter at monitoring centre. iv) Audio alert at camera end by electronic hooter.	To be Physically Checked by Board of Officers.
37.	Log of events on which alarm generated should automatically save with video file.	Yes	To be Physically Checked by Board of Officers.



**4. Revised QRs & TDs of NVR 32 Ports input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

S/N o	Parameter	Values/ Specification	Trial Directives
1.	Type of Recording device	NVR	To be Physically Checked by Board of Officers.
2.	IP Camera Support	Yes	To be Physically Checked by Board of Officers.
3.	PTZ Camera Control Support	Yes	To be Physically Checked by Board of Officers.
4.	Housing Construction	Aluminium	To be Physically Checked by Board of Officers.
5.	Mounting	Rack Type	To be Physically Checked by Board of Officers.
6.	Rack Mount configuration	1.5 U or better	To be Physically Checked by Board of Officers.
7.	Capability Of Recorder To Work With Other Makes of CCTV Cameras (ONVIF Support)	Yes (S,G,M & T profile)	To be Physically Checked by Board of Officers.
8.	No. of Video Input Channel	32	To be Physically Checked by Board of Officers.
9.	No. of Video output Channel ( <u>Minimum</u> )	04	To be Physically Checked by Board of Officers.
10.	Recording Resolution.	4K (3840 X 2160)	OEM / Vendor Self Certification required.
11.	Warranty (Years)	02	MAF (Manufacturer Authorisation Form) to be submitted.
12.	Time for Replacement of Defective Product During Warranty Period (Hours)	72	OEM / Vendor Self Certification required
13.	Supported Video Compression Technique	H.265 or better	OEM / Vendor Self Certification required
14.	Total Number of simultaneous local Views (Minimum)	02	To be Physically Checked by Board of Officers.
15.	Recording speed for all channels (fps)	30 or Better	To be Physically Checked by Board of Officers.

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**4. Revised QRs & TDs of NVR 32 Ports input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II**

16.	Minimum Through put (Mbps)	256 or better	OEM / Vendor Self Certification required.
17.	Type of Encryption	HTTPS (SSL/TLS)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
18.	Alarm Support	Yes	To be Physically Checked by Board of Officers.
19.	Video Content Analytics (VCA)	NVR should support all video analytics of PTZ/Bullet camera and able to generate alarm.	To be Physically Checked by Board of Officers.
20.	Operating System Supported	Windows/Linux	To be Physically Checked by Board of Officers.
21.	Supported Interface	Ethernet, HDMI, USB	To be Physically Checked by Board of Officers.
22.	Physical Layer of Ethernet	10/100/1000 Base TX	OEM / Vendor Self Certification required
23.	BIS Registration for safety general requirement as per IS: 13252 (Part 1) : latest	Yes	BIS Registration certificate to be submitted .
24.	Operating Temperature ( in degree Celsius)	-10° to +55 °C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted
25.	Relative Humidity Non Condensing (in percentage)	90%	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
26.	Power Input	230VAC±10 %, 50 Hz, 12VDC, 24 VDC	OEM / Vendor Self Certification required.
27.	Internal Hard Drive Interface	SATA-III	OEM / Vendor Self Certification required.
28.	Number of Hard Disks (Inclusive in the scope of supply)	04	OEM / Vendor Self Certification required
29.	Storage Capacity of each Hard Disk (TB)	10	OEM / Vendor Self Certification required

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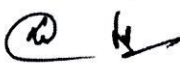




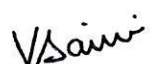

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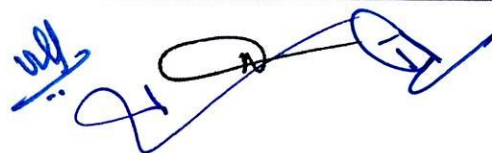



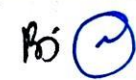
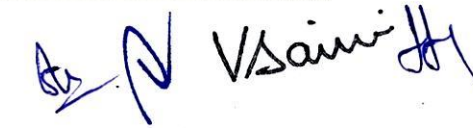
4. <u>Revised QRs &amp; TDs of NVR 32 Ports input Channel for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II</u>			
30.	Number of Hard Disks supported (Minimum)	02	In this regard OEM / Vendor Self Certification required
31.	Suitable Adapter To Be Supplied To Make The Equipment Work On 230 V $\pm$ 10 %, 50 Hz	Yes	To be Physically Checked by Board of Officers
32.	Video recorder supports recording on NAS Directly	Yes	OEM / Vendor Self Certification required
33.	Live camera Grid	Selectable 1/2/4/8/16/32	To be Physically Checked by Board of Officers.
34.	Resolution support	6MP (4K or better)	To be Physically Checked by Board of Officers.
35.	Optical mouse and Joystick with twisting return to centre head (01 No. each)	Yes	To be Physically Checked by Board of Officers
36.	Generation of Alarm	i) Beep sound generated in <u>C-2 Centre.</u> ii) Video of particular camera should be popped up on the screen. iii) Audio alert also through electronic hooter at <u>monitoring centre.</u> iv) Audio alert at camera end by electronic hooter.	To be Physically Checked by Board of Officers
37.	Log of events on which alarm generated should automatically save with video file.	Yes	To be Physically Checked by Board of Officers





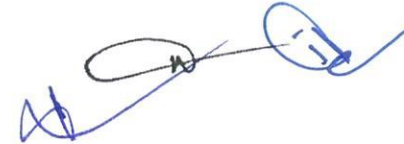

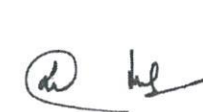

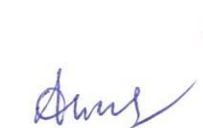




5. Revised QRs & TDs of DVR/XVR(HVR) with 04 Ports input Channel for ESVP (Electronic Surveillance of Vulnerable Patches) project, Phase-II			
S/No	Parameter	Values/ Specification	Trial Directives
1.	Type Of Recording Device	HVR	To be Physically Checked by Board of Officers.
2.	IP Camera Support	Yes	To be Physically Checked by Board of Officers.
3.	PTZ Camera Control Support	Yes	To be Physically Checked by Board of Officers.
4.	Housing Construction	Aluminium	To be Physically Checked by Board of Officers.
5.	Mounting	Rack Type	To be Physically Checked by Board of Officers.
6.	Rack Mount Configuration	1 U or better	To be Physically Checked by Board of Officers.
7.	Capability Of Recorder To Work With Other Makes Of CCTV Cameras (ONVIF Support)	Yes	To be Physically Checked by Board of Officers.
8.	No. of Video Input Channel	04	To be Physically Checked by Board of Officers.
9.	Number Of Non-IP Based Video Input Channels For HVR	04	To be Physically Checked by Board of Officers.
10.	Number Of IP Based Video Input Channels For HVR	04	To be Physically Checked by Board of Officers.
11.	No: of Video output Channel (Min)	02	To be Physically Checked by Board of Officers.
12.	Recording Resolution.	Full HD (1920 X 1080)	OEM / Vendor Self Certification required.
13.	Warranty (Years)	02	MAF (Manufacturer Authorisation Form) to be submitted.
14.	Time For Replacement of Defective Product During Warranty Period ( Hours)	72	OEM / Vendor Self Certification required
15.	Supported Video Compression Technique	H.265 or better	OEM / Vendor Self Certification required
16.	Number of simultaneous local Views (Min)	01	To be Physically Checked by Board of Officers.



<b>5. Revised QRs &amp; TDs of DVR/XVR(HVR) with 04 Ports input Channel for ESVP (Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
17.	Recording speed for all channels (fps)	30 or Better	To be Physically Checked by Board of Officers.
18.	Minimum Through put (Mbps)	24 or Better	OEM / Vendor Self Certification required.
19.	Type of Encryption	HTTPS (SSL/TLS)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
20.	Audio alarm Support	Yes (Audio alert)	To be Physically Checked by Board of Officers.
21.	Operating System Supported	Windows/Linux	OEM Certification required.
22.	Supported Interface	Ethernet, HDMI, USB	To be Physically Checked by Board of Officers.
23.	Physical Layer of Ethernet	10/100/1000 Base TX	OEM / Vendor Self Certification required.
24.	BIS Registration for safety general requirement as per IS: 13252 (Part 1) : latest	Yes	Govt. Accredited Lab Certification to be submitted.
25.	Operating Temperature ( in degree Celsius)	-10° to +55 °C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
26.	Relative Humidity Non Condensing (in percentage)	90 %	
27.	Power Input	12 V DC / 230V AC $\pm 10$ %, 50 Hz,	To be Physically Checked by Board of Officers.
28.	Internal Hard Drive Interface	SATA -III	To be Physically Checked by Board of Officers.
29.	Number of Hard Disk (Inclusive in the Scope of Supply)	01	To be Physically Checked by Board of Officers.
30.	Storage Capacity of Each Hard Disk (TB)	02	To be Physically Checked by Board of Officers.
31.	Number of Hard Disks supported (Min)	01	Firm/ Bidder will submit OEM Certificate.
32.	Search	Date, Time, Event	To be Physically Checked by Board of Officers.
33.	Suitable Adapter To Be Supplied To Make The Equipment Work On 230 V $\pm 10$ %, 50 Hz	Yes	To be Physically Checked by Board of Officers.



6. <u>Revised QRs &amp; TDs of MONITOR 55" for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</u>			
S/No	Parameter	Value/Specification	Trial Directives
1	Panel Technology	LED	OEM / Vendor Self Certification required.
2	Native Resolution ( Pixels)	4K (3840 X 2160)	OEM / Vendor Self Certification required.
3	Screen Type	Non Touch and Flat	OEM / Vendor Self Certification required.
4	Screen Size (Diagonal) Minimum (cm)	138 (55 Inch) or higher	OEM / Vendor Self Certification required.
5	Orientation	Landscape	To be Physically Checked by Board of Officers.
6	Aspect Ratio	16:9	OEM / Vendor Self Certification required.
7	Duty Cycle	24 x 7	To be Physically Checked by Board of Officers.
8.	Technology	OLED/LED Backlit	OEM / Vendor Self Certification required.
9.	Brightness (Nits) Minimum	450 or higher	OEM / Vendor Self Certification required.
10.	On Site OEM Warranty	02 Years	MAF (Manufacturer Authorisation Form) to be submitted.
11.	Arrangement of Speakers	Inbuilt	To be Physically Checked by Board of Officers.
12.	BIS Registration under CRS of Meity	Yes	Govt. Accredited Lab Certification to be submitted.
13.	RJ 45	Yes	To be Physically Checked by Board of Officers.
14.	ROHS Compliance	Yes	Govt. Accredited Lab Certification to be submitted.













<b>6. Revised QRs &amp; TDs of MONITOR 55" for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
15.	HDMI Port	Yes	To be Physically Checked by Board of Officers
16.	USB Port	Yes	To be Physically Checked by Board of Officers
17.	Accessories to be supplied : AC Power cord, remote control, user manual, wall mount bracket, necessary cables and connectors	Yes	To be Physically Checked by Board of Officers
18.	Grade	24 x 7 commercial grade	OEM Certification required.

**Appendix-"A-6"**

<b>7. Revised QRs &amp; TDs of Point to Point Radio Link (Wireless Bridge) for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II</b>			
S/No.	Parameter	Values/ Specification	Trial Directives
1.	Type of Bridge	Point to Point	OEM Certification is required.
2.	Mounting	Pole	To be Physically Checked by Board of Officers.
3.	Type of Antenna	External	To be Physically Checked by Board of Officers.
4.	Antenna Gain (DBi)	25 or better	OEM Certification is required.
5.	No. of Radio Channel	Single	To be Physically Checked by Board of Officers.
6.	Support For MU-MIMO	Yes	OEM Certification is required.
7.	Number Of 10::100::1000 Port	1	To be Physically Checked by Board of Officers.
8.	Wireless Speed Maximum (Throughput) (Mbps)	600 or more	OEM Certification is required
9.	Device Management	Web based configuration interface (GUI)	To be Physically Checked by Board of Officers.
10.	Frequency Band in GHz	5	OEM Certification is required
11.	Transmit Power (Tx) (DBm)	27	OEM Certification is required.



12.	Wireless Signal Range Upto (Km)	15	OEM Certification is required.
13.	Channel Width (MHz)	80	OEM Certification is required.
14.	Receiver Sensitivity {In ( - ) DBm }	-95	OEM Certification is required.
15.	Encryption	Yes ( AES -128 bit or better)	OEM Certification is required
16.	On Site OEM Warranty (Year)	2 or more	MAF to be submitted by Firm/Vendor
17.	WPC Certified	Yes	OEM Certification is required
18.	Wireless Certification	BIS,FCC	OEM Certification is required.
19.	RoHS Compliance	Yes	Govt. Accredited Lab Certification to be submitted.
20.	Environmental Standard : plenum-rated (UL2043) for Indoor and IP67 for Outdoor	Yes	Govt. Accredited Lab Certification to be submitted.

**Appendix-"A-7"**

<b>8. <u>Revised QRs &amp; TDs of 24 Core OFC (FRP Armoured) for ESVP (Electronic Surveillance of Vulnerable Patches) project</u></b> <b><u>Phase-II</u></b> <b><u>( To be Used for Multiple Deployment (Underground / Aerial) Scenario)</u></b>			
S/N o	Parameter	Values/ Specification	Trial Directives
1.	Type of tube / no. of tube/ no. of core per tube	Multitube/ 6 /4	To be Physically Checked by Board of Officers
2.	Cable Armoring	Armored with ECCs tape	To be Physically Checked by Board of Officers
3.	Fiber Count	24	To be Physically Checked by Board of Officers.
4.	Jacket Material	High Density Poly Ethylene (UV)	OEM Certification is required.



5.	Fiber Type	Single Mode OS2 (Outdoor)	OEM Certification is required.
6.	Operational Temperature Range(Degree Celsius)	-20° C to 70° C	OEM Certification is required.
7.	Storage Temperature Range(Degree Celsius)	-20° C to +60° C	OEM Certification is required.
8.	Installation Temperature Range(Degree Celsius)	-20° C to +60° C	OEM Certification is required.
9.	Strength Member	Solid FRP Non-metallic strength member in the center of the cable core.	OEM Certification is required.
10.	Core wrapping	Wrapped by layer/ layers of polyester tape.	OEM Certification is required.
11.	Moisture barrier protection	By Thixotropic flooding compound (Jelly)	OEM Certification is required.
12.	Material of Inner Sheath	Core covered with Tough UV resistant HDPE	OEM Certification is required.
13.	Tensile Load (Short Term)	2000 N	OEM Certification is required.
14.	Outer Jacket(Sheath)	High Density Polyethylene (UV).	OEM Certification is required.
15.	Minimum Bend Radius(installation)	20 x OD (20 times diameter of cable)	OEM Certification is required.
16.	The Fibers in cable length	Without joint.	OEM Certification is required.
17.	Availability of complete and satisfactory type test Report from Central Government / NABL/ ILAC accredited laboratory to conformity of the Specification	Yes	Firm to submit the report .

**Appendix-"A-8"**

**9. Revised QRs & TDs of L-2 Switch, 4 SFP, 08 Copper Port for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/N o	Parameter	Values/ Specification	Trial Directives
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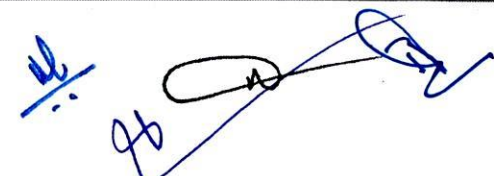
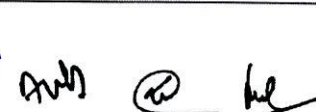








1.	Type of switch	Managed	To be Physically Verified by BOO.
2.	Technology	PoE / PoE +	OEM Certification is required.
3.	Number of 1 G Copper port	08	To be Physically Verified by BOO.
4.	Number of 1G SFP Port	04-LR (fully loaded with SFP Module)	OEM Certification is required
5.	Multi-Gigabit Support	Yes	OEM Certification is required
6.	Redundant Power Supply ( From Day One)	Yes	OEM Certification is required and to be Physically Verified by BOO
7.	Onsite OEM warranty	2 Years	MAF to be submitted by Firm/Vendor.
8.	Switching Capacity – Non blocking	20 Gbps	OEM Certification is required.
9.	Certification	TEC and TTP approved certification	Relevant Certificate to be submitted.
10.	Housing of Switch	Industrial Grade	OEM Certification is required.

**Appendix-"A-9"**

<b>10. Revised QRs &amp; TDs of L-2 Switch, 08 Ports for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S / No.</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	Type of switch	Un Managed	To be Physically Checked by BOO.
2.	Technology	PoE / PoE +	OEM Certification is required.
3.	Number of 1Gb Copper port	08	To be Physically Checked by BOO.
4.	Multi-Gigabit Support	Yes	OEM Certification is required.
5.	Redundant Power Supply ( From Day One)	Yes	OEM Certification is required and to be Physically Verified by BOO
6.	Onsite OEM warranty	2 Years	MAF to be submitted by Firm/Vendor.
7.	Certification	TEC and TTP approved certification	Relevant Certificate to be submitted.



8.	Housing of Switch	Industrial Grade	OEM Certification is required.
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**Appendix-"A-10"**

<b>11. Revised QRs &amp; TDs of LIU 24 PORT for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S/No.</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	LIU Type	Rack Mounted	To be Physically Checked by Board of Officers.
2.	Type of patch panel	Flat	To be Physically Checked by Board of Officers.
3.	Height of Patch Panel	2U	To be Physically Checked by Board of Officers.
4.	No. of Port	24 port single mode loaded with patch cord and pig tails	To be Physically Checked by Board of Officers.
5.	Adapter	SC	OEM Certification is required.
6.	Material Of Patch Panel	Cold rolled steel	To be Physically Checked by Board of Officers
7.	Height	Any Value.	Not Applicable.
8.	Width	Any Value.	Not Applicable.
9.	Depth	Any Value.	Not Applicable.
10.	Approvals	IS / ROHS / CE	Relevant Certificate to be submitted.
11.	Spliced Tray	Loaded	To be Physically Checked by Board of Officers.

**Appendix-"A-11"**

<b>12. Revised QRs &amp; TDs of Battery 12 Volt for Inverter for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S/N</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	Material of container	Polypropylene / ABS	OEM Certification required.

*[Handwritten signatures and initials are present below the table, including "V. Saini" and others.]*

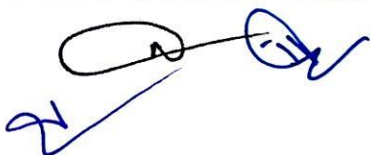


<b>12. Revised QRs &amp; TDs of Battery 12 Volt for Inverter for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
2.	Rated capacity at C/20 discharge (AH)	200	OEM Certification required.
3.	Type of Battery	Stationary Lead Acid Batteries(with Tubular Positive Plates) in Monobloc container confirming to IS:13369/1992	To be Physically Checked by Board of Officers
4.	Battery Condition	Charged	To be Physically Checked by Board of Officers
5.	Nominal Voltage of battery (Volt)	12.0 volt	To be Physically Checked by Board of Officers
6.	Warranty (Years)	4	MAF to be submitted by Firm/Vendor
7.	Dimensions (L x W x H)	As per relevant IS specifications	Relevant certificate to be submitted by firm/Vendor

**Appendix-"A-12"**

<b>13. Revised QRs &amp; TDs of online UPS, 3KVA for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
S/N o	Parameter	Values/ Specification	Trial Directives
1.	Rating in KVA (KVA)	3 KVA	To be Physically Checked by Board of Officers.
2.	Technology	IGBT – PWM with isolation transformer	OEM certification required.
3.	Input Power/voltage	Single phase 160-270V, Sine wave, 50 Hz	To be Physically Checked by Board of Officers.
4.	Output Power (Volt)	Single phase 230 V $\pm$ 1%, sine wave, 50 Hz	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.





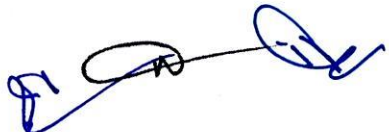








**13. Revised QRs & TDs of online UPS, 3KVA for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

5.	Warranty of battery	2 years or more	MAF should submitted by Firm/Bidder.
6.	Degree of protection	IP 20	Govt. Accredited Lab Certification to be submitted
7.	Cabling 5 Meter for Input and Output	required	To be Physically Checked by Board of Officers.
8.	Paralleling kit for synchronization.	Hot standby /Parallel	To be Physically Checked by Board of Officers.
9.	Type of Battery	SMF (Sealed Maintenance-Free)	To be Physically Checked by Board of Officers and OEM Certification is required in this regard.
10.	20% Overload Limit for Min 10 Minutes	Yes	OEM / Vendor Self Certification required.
11.	Overall Efficiency ( % )	$\geq 92\%$	OEM / Vendor Self Certification required.
12.	50% Overload Limit for Min 1 Minutes	Yes	OEM / Vendor Self Certification required.
13.	Back up time (Hours)	12	To be Physically Checked by Board of Officers.
14.	Minimum VAH (VAH)	5400	To be Physically Checked by Board of Officers.
15.	Warranty of UPS(Years)	2 Years	MAF should submitted by Firm/Bidder.
16.	As per Meity (Govt. of India) guidelines UPS shall have valid BIS CRS certifications as applicable.	Yes	To be Physically Checked by Board of Officers.
17.	Protection for under voltage at battery terminal at 10.5 V per 12 V battery with alarm.	Yes	To be Physically Checked by Board of Officers.
18.	Protection of over voltage, Short circuit, Overload at UPS terminal with alarm.	Yes	To be Physically Checked by Board of Officers.

  
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<b>13. Revised QRs &amp; TDs of online UPS, 3KVA for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
19.	Input connection	3 Wire (1Ph + 1 N + 1E)	To be Physically Checked by Board of Officers.
20.	Rack for battery	Required	To be Physically Checked by Board of Officers.

**Appendix-"A-13"**

<b>14. Revised QRs &amp; TDs of Fiber Patch Cord for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
S/No.	Parameter	Values/ Specification	Trial Directives
1.	Connector type, Connector End A	SC / LC (As Per Requirement )	To be Physically Checked by Board of Officers.
2.	Connector type, Connector End B	SC / LC (As Per Requirement )	To be Physically Checked by Board of Officers.
3.	Cable type	SIMPLEX	OEM Certification is required.
4.	Fibre type	Single Mode 9/125 micron	OEM Certification is required.
5.	Cable Size, Outer Dia (in mm)	Any Value	To be Physically Checked by Board of Officers.
6.	Cord Length (in meter)	3	To be Physically Checked by Board of Officers
7.	Jacket Material (Sheath Material)	Should be able to provide mechanical protection, environmental, resistance and flexibility.	OEM Certification is required
8.	Operating Temperature	-10° C ~ 70°C	OEM Certification is required

**Appendix-"A-14"**

<b>15. Revised QRs &amp; TDs of PIG TAIL (QRs and Trial Directives) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>
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**15. Revised QRs & TDs of PIG TAIL (QRs and Trial Directives) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S / No.	Parameter	Values/ Specification	Trial Directives
1.	Connector type	SC	To be Physically Checked by Board of Officers.
2.	Cable type	SIMPLEX	OEM Certification is required.
3.	Fibre type	Single Mode	OEM Certification is required.
4.	Cord Length (in meter)	2	To be Physically Checked by Board of Officers

**Appendix-"A-15"**

**16. Revised QRs & TDs of CAT 6 CABLE for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/N o	Parameter	Values/ specification	Trial directives
1.	Cable category	CAT6 UTP – Outer Jacket HDPE with UV resistant	OEM Certification is required.
2.	Conductor Diameter	0.57 mm (23 AWG)	OEM Certification is required.
3.	Inner Jacket Material	LSZH / PVC	OEM Certification is required.
4.	Storage Temperature Range	-10° C ~ 70° C ,	Govt. Accredited Lab Certification to be submitted.
5.	Operating Temperature Range	-20°C to +60°C	Govt. Accredited Lab Certification to be submitted.
6.	Length Of Cable in a Bundle (Mtrs)	305	To be Physically Checked by Board of Officers.
7.	UL Marking On Cable	Yes	To be Physically Checked by Board of Officers.
8.	Filler	HDPE with UV resistant	OEM Certification is required.

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17. Revised QRs & TDs of Cabinet for Switch for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II			
S/N	Parameter	Values/ Specification	Trial Directives
1.	Type of Cabinet	Outdoor	To be Physically Checked by Board of Officers.
2.	Size of Cabinet	12 U, 21 Inch Rack	OEM Certification is required.
3.	Type of Material	Galvanized Steel, Single Wall	To be Physically Checked by Board of Officers.
4.	Mount Type	Wall Mount and Pole Mount	To be Physically Checked by Board of Officers.
5.	Key Locks	Anti-theft Three-point Outdoor Cabinet Lock	To be Physically Checked by Board of Officers
6.	Number of Fan For Heat dissipation (Nos)	2	To be Physically Checked by Board of Officers
7.	Provision for manual External Lock	Yes	To be Physically Checked by Board of Officers
8.	Availability of Heat Sink	Yes	To be Physically Checked by Board of Officers
9.	Dust or water resistant	Yes	OEM Certification is required.
10.	IP Rating	IP 56	OEM Certification is required.
11.	PDU Power Strips	Yes	To be Physically Checked by Board of Officers
12.	Cable Gland Connectors	Yes ( 2 or More)	To be Physically Checked by Board of Officers
13.	Surface Treatment	Outdoor polyester powder-coated with a textured finish.	OEM Certification is required.
















<b>17. Revised QRs &amp; TDs of Cabinet for Switch for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
14.	DIN Rail requirement	Yes	To be Physically Checked by Board of Officers
15.	Provision for rack Mounted LIU of 4U or More	Yes	To be Physically Checked by Board of Officers
16.	Certification Requirement	ISO9001	ISO Certification is required.
17.	Warranty(Years)	2	MAF is to be submitted by Firm/Vender
18.	Type of Housing	Industrial Grade	OEM Certification is required.


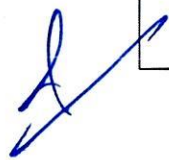

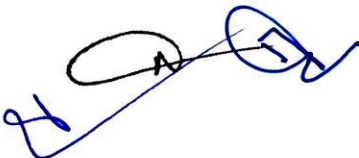




**Appendix-"A-17"**

<b>18. Revised QRs &amp; TDs of OTDR (Optical Time Domain Reflectometer) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
S/No.	Parameter	Values/ Specification	Trial Directives
1.	Fibre Compatibility	Both Single mode & Multimode, Live Fibre Testing	OEM Certification is required.
2.	Central Wavelength (Nm)	1310 & 1550 and 850 & 1300 for Both Single Mode & Multi Mode.	OEM Certification is required.
3.	Wavelength Tolerance ( $\pm$ ) ( Nm )	20.0	OEM Certification is required.
4.	Maximum Display Distance Range ( Km )	240.0	OEM Certification is required.
5.	Distance Measurement Accuracy ( $\pm$ ) ( M )	$\leq 4$ Meter	OEM Certification is required.
6.	Display	Colour Display, Touch Screen	To be Physically Checked by Board of Officers
7.	Display Size	$\geq 4$ Inch	To be Physically Checked by Board of Officer
8.	Connectivity Interface	RJ45, USB	To be Physically Checked by Board of Officer

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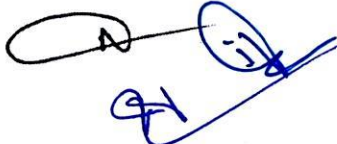









<b>18. Revised QRs &amp; TDs of OTDR (Optical Time Domain Reflectometer) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
9.	External Storage Capacity Inclusive In the Scope of Supply ( GB )	32 GB	To be Physically Checked by Board of Officers
10.	Power Source	Internal Rechargeable Battery	
11.	Battery Chemistry, if Rechargeable Battery	Li-Ion	
12.	Built-in Visual Fault Locator (VFL) / Visual Light Source (VSL)	Yes	OEM Certification is required.
13.	Built-in Power Meter	Yes	OEM Certification is required.
14.	Minimum Power Measurement Range (DBm)	-70	OEM Certification is required.
15.	Connector Tip	PC/UPC, APC	To be Physically Checked by Board of Officers.
16.	Accessories Inclusive In The Scope Of Supply (Select Included Accessories Only)	Carry Case, Suitable LAN cable & VFL/VSL adapter	To be Physically Checked by Board of Officers.
17.	Minimum Operating Temperature	-10°C to + 50°C	Govt. Accredited Lab Certification to be submitted.
18.	Maximum Operating Humidity	95 %	
19.	Warranty	5 Years	MAF is required by Firm/Bidder
20.	Certifications	CE/IEC/RoHS	Govt. Accredited Lab Certification to be submitted.
21.	Availability of Test Reports from Central Govt/ NABL/ ILAC accredited lab to prove conformity to the Specifications	Yes	To be Checked by Board of Officers





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**19. Revised QRs & TDs of Fiber Optic Fusion Splicer for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No	Parameter	Values/ Specification	Trial Directives
1.	Type	Single Fibre Fusion Splicer	To be Physically Checked by Board of Officers
2.	Splicing Mode	Auto	To be Physically Checked by Board of Officers
3.	Alignment Mode	Core to Core Alignment	To be Physically Checked by Board of Officers
4.	IP Protection	IP 66	Govt. Accredited Lab Certification to be submitted.
5.	Applicable Fibre	Single Mode (SM)	OEM Certificate to be provided by the firm/bidder
6.	Fiber Count	1	To be Physically Checked by Board of Officers
7.	Electrode Life (In Splices)	5000	OEM Certificate to be provided by the firm/bidder
8.	Display Size	5.0 Inch and above	To be Physically Checked by Board of Officers
9.	Type of Display	Touch Screen	To be Physically Checked by Board of Officers
10.	Power Source	Rechargeable Battery	To be Physically Checked by Board of Officers
11.	Battery Chemistry, if Rechargeable Battery	Li-Ion	To be Physically Checked by Board of Officers.
12.	Warranty On Probe Electrode ( Month )	24	MAF is required by Firm/Bidder
13.	Warranty on Equipment	5 Years	MAF is required by Firm/Bidder



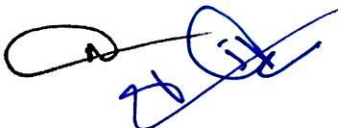

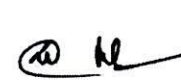




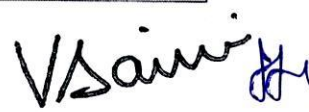


**Appendix-"A-19"**

<b>20. Revised QRs &amp; TDs of Fiber Optic Tool Kit for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S/N o</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	LED Headlight Wattage	1 Watt	To be Physically Checked by Board of Officers.
2.	Kit Content	Fiber optic power meter, Cleaner, Fiber Cleaner, Telecom crimping tool, Cable stripper, Side cutting plier, Pro soft screw driver, Fiber optic Kevlar cutter, Measuring tape, Dispenser, Curved claw hammer, Bulb blower, Foams swab cleaning kit, Brush, Visual Fault Locator, Knives, Isopropyl alcohol bottle, Clean paper, Connector, Utility storage box, Long nose cutting plier, Tweezer Set, Multi-Purpose Saw, Number sticker, Bolt Cutter, Coax/Buffer Stripper, Rotary Coaxial Cable Stripper	To be Physically Checked by Board of Officers
3.	Pack Type	Box	To be Physically Checked by Board of Officers.
4.	Warranty	2 Years	Undertaking of Firm/Vender required

**Appendix-"A-20"**

<b>21. Revised QRs &amp; TDs of Camera Shed for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S /No</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	Camera Shed	To provide due protection to the Cameras from rain and sunlight.	To be Physically Checked by Board of Officers.
2.	Material	ABS/Aluminium/Iron	To be Physically Checked by Board of Officers.
3.	Mounting Mechanism	Pole/Wall	To be Physically Checked by Board of Officers.

**Appendix-"A-21"**

<b>22. Revised QRs &amp; TDs of Outdoor Cabinets for Inverter for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S/No.</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	Outdoor Cabinet Material	Type of Metal : sheet metal powder coated	To be Physically Checked by Board of Officers.
2.	Provision of Lock	Yes	To be Physically Checked by Board of Officers.
3.	Housing	Inverter & Inverter Battery	To be Physically Checked by Board of Officers.
4.	Mounting	On PCC Base (Fixed with Nuts & Bolts)	To be Physically Checked by Board of Officers.
5.	Provision of Fan for Cooling	Yes	To be Physically Checked by Board of Officers.
6.	Locking System	Dual locking system with one locking system being Anti-theft Three-point locking system & another locking system being external lock.	To be Physically Checked by Board of Officers.

**Appendix-"A-22"**

<b>23. Revised QRs &amp; TDs of Bamboo LIU (OFC Splice Closure) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	Optical Fibre Splice Closure	Dome Type	To be Physically Checked by Board of Officers.
2.	Application	Outdoor	To be Physically Checked by Board of Officers.
3.	Protection	IP 67	OEM/ Firm Certification
4.	Operating Temp	-10°C to +60°C	OEM/ Firm Certification
5.	Mounting Type	Aerial Hanger / Pole Hold	To be Physically Checked by Board of Officers.
6.	Certification	RoHS Compliant	Govt. Accredited Lab Certification to be submitted.



**24. Revised QRs & TDs of Spike Buster for ESVP (Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No.	Parameter	Values/ Specification	Trial Directives
1.	No. of Sockets	06	To be Physically Checked by Board of Officers.
2.	Surge Protection	Yes	To be Physically Checked by Board of Officers.
3.	USB Port	Yes (Min. 02)	To be Physically Checked by Board of Officers.
4.	Cord Length	05 Meters	To be Physically Checked by Board of Officers.
5.	Power Indicator	Yes	To be Physically Checked by Board of Officers.
6.	Safety Fuse	Yes	To be Physically Checked by Board of Officers.
7.	Operating Temperature	-10°C to +60°C	OEM/ Firm Certification

**25. Revised QRs & TDs of Misc items i.e Clip Wire, OFC Joint Sleeve, Cable Fixing Clips, PVC Cable Ties, Mounts & Fixings, Support Wire, Cat 6 patch cord, HDMI Cable, RJ 45 Connector, MCB 32 Amp OFC Route marker and Label printing machine etc for ESVP (Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No	Parameter	Values/ Specification	Trial Directives
1.	Clip Wire	Standard PVC Coated to be provided as per requirements	Firm/Bidder Undertaking to be submitted
2.	OFC Joint Sleeve	Standard Size with metallic support to be provided as per requirements	Firm/Bidder Undertaking to be submitted
3.	Cable Fixing Clips	Standard Size with metallic support to be provided as per requirements	Firm/Bidder Undertaking to be submitted
4.	PVC Cable Ties	Standard Quality of different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted

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**25. Revised QRs & TDs of Misc items i.e Clip Wire, OFC Joint Sleeve, Cable Fixing Clips, PVC Cable Ties, Mounts & Fixings, Support Wire, Cat 6 patch cord, HDMI Cable, RJ 45 Connector, MCB 32 Amp OFC Route marker and Label printing machine etc for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

5.	Mounts & Fixings	Standard Quality of different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted
6.	Support Wire	Galvanised Insulated (GI) wire (17 Guage) PVC Coated to be provided as per requirements	Firm/Bidder Undertaking to be submitted
7.	Other Misc Items/Equipment/ Accessories	Any other equipment/ accessories essentially required for commissioning of the project may be procured on the basis of golden parameters (of that particular item) of GeM. Besides, any other item which is not available on GeM, then same may be procured from local market after observing the codal formalities.	Any other equipment/ accessories essentially required for commissioning of the project may be procured on the basis of golden parameters (of that particular item) of GeM. Besides, any other item which is not available on GeM, then same may be procured from local market after observing the codal formalities.
8.	Cat 6 Patch cord	Standard Quality of reputed firm with different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted
9.	HDMI CABLE	Standard Quality of reputed firm with different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted
10.	RJ 45 connector	Standard Quality of reputed firms.	Firm/Bidder Undertaking to be submitted
11.	OFC Route Marker	Standard Quality of different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted
12.	MCB 32 Amp (Miniature Circuit Breaker)	Standard Quality as per BIS specification	Firm/Bidder Undertaking to be submitted.
13.	Desktop type Label printing machine with USB interface, tape size 12-18 mm with AC adapter and should have features of print line based on PC connect.	Standard Quality to be provided as per requirements.	Firm/Bidder Undertaking to be submitted

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**26. QRs & TDs of NVR with 24 Ports input Channel ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**


S/ No.	Parameter	Values/ Specification	Trial Directives
1.	Type of Recording Device	NVR	To be Physically Checked by Board of Officers.
2.	IP Camera Support	Yes	To be Physically Checked by Board of Officers.
3.	PTZ Camera Control Support	Yes	To be Physically Checked by Board of Officers.
4.	Housing Construction	Aluminium	To be Physically Checked by Board of Officers.
5.	Mounting	Rack Type	To be Physically Checked by Board of Officers.
6.	Rack Mount configuration	1.5U or better	To be Physically Checked by Board of Officers.
7.	Capability Of Recorder To Work With Other Makes Of CCTV Cameras (ONVIF Support)	Yes (S,G M & T profile)	To be Physically Checked by Board of Officers.
8.	No. of Video Input Channel	24	To be Physically Checked by Board of Officers.
9.	No: of Video output Channel (Minimum)	02	To be Physically Checked by Board of Officers.
10.	Recording Resolution.	4K (3840 X 2160)	OEM / Vendor Self Certification required.
11.	Warranty (Years)	02	MAF (Manufacturer Authorisation Form) to be submitted.
12.	Time For Replacement Of Defective Product During Warranty Period ( Hrs )	72	OEM / Vendor Self Certification required
13.	Supported Video Compression Technique	H.265 or better	OEM / Vendor Self Certification required.
14.	Total Number of simultaneous local Views (Min)	02	To be Physically Checked by Board of Officers.
15.	Recording speed for all channels (fps)	30 or better	To be Physically Checked by Board of Officers.
16.	Minimum Through put (Mbps)	320 or better	OEM / Vendor Self Certification required.
















26. QRs & TDs of NVR with 24 Ports input Channel ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II			
17.	Type of Encryption	HTTPS (SSL/TLS)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
18.	Operating System Supported	Windows/ Linux	To be Physically Checked by Board of Officers.
19.	Supported Interface	Ethernet, HDMI, USB	To be Physically Checked by Board of Officers.
20.	Video Content Analytics (VCA)	NVR should support all video analytics of PTZ/Bullet camera and able to generate alarm	To be Physically Checked by Board of Officers.
21.	Alarm Support	Yes	To be Physically Checked by Board of Officers.
22.	Generation of Alarm	i) Beep sound generated in C-2/Centre ii) Video of particular camera should be popped up on the screen iii) Audio alert also through electronic hooter at monitoring centre. iv) Audio alert at camera end by electronic hooter.	To be Physically Checked by Board of Officers.
23.	Log of events on which alarm generated should automatically save with video file.	Yes	To be physically checked by BOO.
24.	Physical Layer of Ethernet	10/100/1000 Base TX	OEM / Vendor Self Certification required.
25.	BIS Registration for safety general requirement as per IS: 13252 (Part 1) : latest	Yes	BIS Registration certificate to be submitted.
26.	Operating Temperature ( in degree Celsius)	-10° to +55 °C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
27.	Relative Humidity Non-Condensing (in percentage)	90 %	





















26. <u>QRs &amp; TDs of NVR with 24 Ports input Channel ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</u>			
28.	Power Input	230±10 %, 50 Hz, 12 V DC/ 24 V DC	OEM / Vendor Self Certification required
29.	Live camera Grid	Selectable 1/2/4/8/16/24	To be Physically Checked by Board of Officers.
30.	Resolution support	6 MP (4K or better)	To be Physically Checked by Board of Officers.
31.	Internal Hard Drive Interface	SATA III	To be Physically Checked by Board of Officers.
32.	Number of Hard Disks (Inclusive in the scope of supply)	04	To be Physically Checked by Board of Officers.
33.	Storage Capacity of each Hard Disk (TB)	10	To be Physically Checked by Board of Officers.
34.	Number of Hard Disks supported (Minimum)	04	In this regard Firm/Bidder will submit OEM Certificate
35.	Suitable Adapter to be Supplied To Make The Equipment Work On 230 V ± 10 %, 50 Hz	Yes	To be Physically Checked by Board of Officers.
36.	Video recorder supports recording on NAS Directly	Yes	OEM / Vendor Self Certification required.
37.	Optical mouse, hooter and Joystick with twisting return to centre head (01 No. each)	Yes	To be Physically Checked by Board of Officers.


**Appendix-"A-26"**


27. <u>QRs &amp; TDs of Monitor ( 43 Inch LED display) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</u>			
S / No.	Parameter	Values/ Specification	Trial Directives
1.	Panel Technology	LED	OEM / Vendor Self Certification required.
2.	Native Resolution ( Pixels)	4K (3840 X 2160)	OEM / Vendor Self Certification required.
3.	Screen Type	Non Touch and Flat	OEM / Vendor Self Certification required.














27. <u>QRs &amp; TDs of Monitor ( 43 Inch LED display) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</u>			
4.	Grade	24 X 7, commercial type	OEM / Vendor Self Certification required.
5.	Screen Size ( Diagonal) Minimum (cm)	109 cm (43 Inch) or higher	OEM / Vendor Self Certification required.
6.	Orientation	Landscape	To be Physically Checked by Board of Officers.
7.	Aspect Ratio	16:9	OEM / Vendor Self Certification required.
8.	Duty Cycle (Hrs)	24 x 7	To be Physically Checked by Board of Officers.
9.	Technology	OLED/LED Backlit	OEM / Vendor Self Certification required.
10.	Brightness (Nits) Minimum	450 cd/m <sup>2</sup> or higher	OEM / Vendor Self Certification required.
11.	On Site OEM Warranty	02 Years	MAF (Manufacturer Authorisation Form) to be submitted.
12.	Arrangement of Speakers	Inbuilt	To be Physically Checked by Board of Officers.
13.	BIS Registration under CRS of MeitY	Yes	Govt. Accredited Lab Certification to be submitted.
14.	RJ 45	Yes	To be Physically Checked by Board of Officers.
15.	ROHS Compliance	Yes	Govt. Accredited Lab Certification to be submitted.
16.	HDMI Port	Yes	To be Physically Checked by Board of Officers
17.	USB Port	Yes	To be Physically Checked by Board of Officers
18.	Accessories to be supplied : AC Power cord, remote control, user manual, wall mount bracket, necessary cables and connectors	Yes	To be Physically Checked by Board of Officers





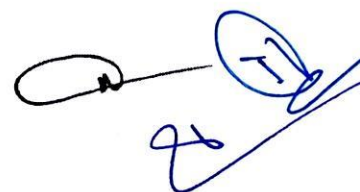

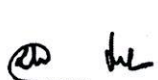













28. QRs & TDs of 24 Core OFC for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S /No.	Parameter	Values/ Specification	Trial Directive
1.	Type of tube / no. of tube / no. of core per tube	Multitube/ 6 /4	To be Physically Checked by Board of Officers.
2.	Fiber Count	24	To be Physically Checked by Board of Officers.
3.	Jacket Material	High Density Poly Ethylene (UV)	OEM Certification is required.
4.	Fiber Type	Single Mode OS2 (outdoor)	OEM Certification is required.
5.	Operational Temperature Range	-20° C to 70° C	OEM Certification is required.
6.	Storage Temperature Range	-20° C to +60° C	OEM Certification is required.
7.	Installation Temperature Range	-20° C to +60° C	OEM Certification is required.
8.	Strength Member	Solid FRP Non-metallic strength member in the center of the cable core.	OEM Certification is required.
9.	Core wrapping	Wrapped by layer/ layers of polyester tape.	
10.	Moisture barrier protection	By Thixotropic flooding compound (Jelly)	
11.	Material of Inner Sheath	Core covered with Tough UV resistant HDPE	
12.	Tensile Load (Short Term)	2000 N	
13.	Outer Jacket(Sheath)	High Density Polyethylene (UV).	
14.	Minimum Bend Radius(installation)	20 x OD (20 times diameter of cable)	
15.	The Fibers in cable length	Without joint.	



**28. QRs & TDs of 24 Core OFC for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

16.	Availability of complete and satisfactory type test Report from Central Government /NABL/ ILAC accredited laboratory to conformity of the Specification	Yes	Firm to submit the report
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**Appendix-"A-28"**

**29. QRs & TDs of Off Grid Inverter 3 KVA for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No.	Parameter	Values/ Specification	Trial Directives
1.	Rating in KVA & Min. VAH Capacity of battery	3 KVA Without battery	To be Physically Checked by Board of Officers.
2.	Technology	MPPT(Maximum Power Point Tracking) with solar charging facility	OEM / Vendor Self Certification required.
3.	Energy rating	3 Star and above	OEM / Vendor Self Certification required.
4.	Type of Battery	Without Battery	To be Physically Checked by Board of Officers.
5.	Bty Charging Mode	Both ( Solar and AC Mains)	To be Physically Checked by Board of Officers.
6.	Output Voltage	Single phase Sine wave 230 V	To be Physically Checked by Board of Officers.
7.	Battery cut-off voltage to protect over discharge	10.5 Volt	To be Physically Checked by Board of Officers.
8.	Type of solar System	Off Grid	To be Physically Checked by Board of Officers.
9.	Solar Plate Wattage.	As per load( Load to be specified by user end)	Firm/Bidder Undertaking to be submitted
10.	Type & Size of solar Plate	Mono crystalline & As per standard size.	OEM undertaking to be submitted. Firm/Bidder to submit undertaking that total number of solar plates being installed, are sufficient to meet the load demand specified by the user.

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**29. QRs & TDs of Off Grid Inverter 3 KVA for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

11.	Inverter specification	Governing	Generally confirming to IS :16221(Part 2):2015 or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
12.	Degree of protection		IP 20	
13.	Inverter shall have valid BIS CRS certifications		Yes	
14.	Onsite Warranty		02 Years	Undertaking from Firm / Bidder is required.
15.	Accessories Inclusive in the Scope of installation		Structure for fixing solar panel and wires.	Undertaking from Firm / Bidder is required.

**Appendix-"A-29"**

**30. QRs & TDs of Servo Voltage Stabilizer (SVS), 3 KVA for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S /No	Parameter	Values/ Specification	Trial Directives
1.	Rating in KVA	3 KVA	OEM / Vendor Self Certification required.
2.	Operational mode	Automatic	To be Physically Checked by Board of Officers.
3.	Input Voltage Range in Voltage	100 – 300 V, 50 Hz	To be Physically Checked by Board of Officers.
4.	Out Put Voltage	230V $\pm$ 5, 50 Hz $\pm$ 1% single phase AC	To be Physically Checked by Board of Officers.
5.	Regulation Type	Relay/Servo Motor	To be Physically Checked by Board of Officers.
6.	Input Connection Type	Power cord with Plug	To be Physically Checked by Board of Officers.
7.	Output connection Type	Out Put socket 5 Amp and 15 Amp	To be Physically Checked by Board of Officers.
8.	Protection	Auto shut down	To be Physically Checked by Board of Officers.
	i) Over/under Voltage		
	ii) short circuit		
	iii) By pass/protection		
9.	Over temperature protection	Auto shutdown at 100° C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
10.	Operating environmental Temp. Range	-20° to 60 ° C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.

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11.	Voltage Meter	1 input and 1 output LED Volt meter	To be Physically Checked by Board of Officers.
12.	LED Indicator Meter	ON, Fault/protection	To be Physically Checked by Board of Officers.
13.	Transformer type	Toroidal auto transformer	OEM / Vendor Self Certification required.
14.	Warranty	02 Years	MAF to be submitted by Firm/Vendor
15.	Relative humidity. Non-condensing	95%	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.

**Appendix-"A-30"**


31. QRs & TDs of Media Converter with 1 Port for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II			
S. No.	Parameter	Values/ Specification	Trial Directives
1	Port		To be Physically Checked by Board of Officers and OEM / Vendor Self Certification required.
	i) Copper	1 X10/100/1000 base -T port	
	ii) Fibre	1 X 100/1000 BASE-FX Single Fibre FX port (SC connector)	
2.	LED Display		To be Physically Checked by Board of Officers
	i) System	ON	
	ii) Fibre Port	Two Lnk/ACT	
	iii) TP Port	Two speed, Lnk/ACT	
3.	Power Input	AC/DC adapter	To be Physically Checked by Board of Officers
4.	Environmental Specification		OEM Certification required.
	Operating Temp	0° C ~ 55°C	
5.	Storage Temp	-10° C ~ 70°C	OEM Certification required.
6.	Certification	FCC and CE	OEM Certification required.
7.	Standards	i) IEEE 802.3 10 BASE-T ii) IEEE 802.3u 100/ 1000 BASE-TX, 100/1000BASE-FX iii) IEEE 802.3ab 1000 base-T iv) IEEE 802.z 1000 base-SX/LX	OEM Certification required.

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32. QRs & TDs of Media Converter with 2 Port for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S / No.	Parameter	Values/ Specification	Trial Directives
1.	Port		
	i) Copper	1 X10/100/1000 base -T port	To be Physically Checked by Board of Officers and OEM / Vendor Self Certification required.
	ii) Fibre	2 X 100/1000 BASE-FX Single Fibre FX port (SC connector)	
2.	LED Display		
	i) System	ON	To be Physically Checked by Board of Officers
	ii) Fibre Port	Two Lnk/ACT	
	iii) TP Port	Two speed, Lnk/ACT	
3.	Power Input	AC/DC adapter	To be Physically Checked by Board of Officers
4.	Environmental Specification		
5.	Operating Temp	0° C ~ 55°C	OEM Certification required.
6.	Storage Temp	-10° C ~ 70°C	
7.	Certification	FCC and CE	
8.	Standards	i) IEEE 802.3 10 BASE-T ii) IEEE 802.3u 100/ 1000 BASE-TX, 100/1000BASE-FX i) IEEE 802.3ab 1000 base-T ii) IEEE 802.3z 1000 base-SX/LX iii) IEEE 802.3x flow control	OEM Certification required.











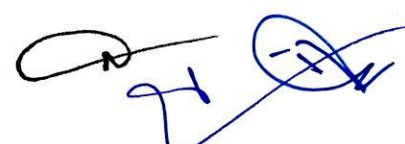
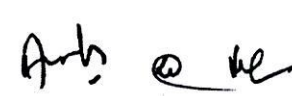







**33. QRs & TDs of 4 U RACK for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No.	Parameter	Values/ Specification	Trial Directives
1.	Size Of Server Rack Enclosure	4 U	OEM Certification is required.
2.	Warranty (Years)	2	MAF is to be submitted by Firm/Vender
3.	Depth of the Rack (mm)	550 or better	To be Physically Checked by Board of Officers.
4.	Front Glass Door	Yes	To be Physically Checked by Board of Officers.
5.	Side Panels With Key Locks and Slam Latch	Yes	To be Physically Checked by Board of Officers
6.	Number of Fan For Heat dissipation (nos)	2	To be Physically Checked by Board of Officers
7.	PDU Power Strips	Yes	To be Physically Checked by Board of Officers

**34. QRs & TDs of 6 U RACK for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No	Parameter	Values/ Specification	Trial Directives
1.	Size Of Server Rack Enclosure	6 U	OEM Certification is required.
2.	Warranty (Years)	2	MAF is to be submitted by Firm/Vender
3.	Depth of the Rack (mm)	600 or better	To be Physically Checked by Board of Officers.
4.	Front Glass Door	Yes	To be Physically Checked by Board of Officers.
5.	Side Panels With Key Locks and Slam Latch	Yes	To be Physically Checked by Board of Officers



6.	Number of Fan For Heat dissipation (nos)	2	To be Physically Checked by Board of Officers
7.	PDU Power Strips	Yes	To be Physically Checked by Board of Officers

**Appendix-"A-34"**

<b>35. QRs &amp; TDs of Copper Electrical Cable(2 X 4 Sq mm) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S/N</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	ISI Marked	Yes	To be Physically Checked by Board of Officers.
2.	No. of core (Copper)	2	To be Physically Checked by Board of Officers.
3.	Type of Sheath	PVC	OEM Certification is required.
4.	Nominal Cross Sectional Area of Conductor (in Sq mm)	4 SQ MM	OEM Certification is required.
5.	Confirmation of Cable to	IS: 694 for PVC Insulated Cable.	OEM Certification is required.

**Appendix-"A-35"**

<b>36. Aluminium Electrical Cable(2 X 25 Sq mm) Aluminium Un-armoured (QRs and Trial Directive ) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
<b>S/No</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	ISI Marked	Yes	To be Physically Checked by Board of Officers.
2.	Material of conductor	Aluminium	OEM Certification is required.
3.	No. of core (aluminium)	2	To be Physically Checked by Board of Officers.

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<b>36. Aluminium Electrical Cable(2 X 25 Sq mm) Aluminium Un-armoured (QRs and Trial Directive ) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
4.	Insulation	XLPE	OEM Certification is required.
5.	Type of outer Sheath	PVC	OEM Certification is required.
6.	Type of inner Sheath	Thermoplastic	OEM Certification is required.
7.	Nominal Cross Sectional Area of Conductor (in Sq mm)	25 SQ MM	OEM Certification is required.
8.	Confirmation of Cable to	As per CI IS:7098 (Part-I) :1988 latest	OEM Certification is required.

**Appendix-"A-36"**

<b>37. QRs &amp; TDs of Aluminium Electrical Cable(3.5X 35 Sq mm) Aluminium Un-armoured for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II</b>			
S / No.	Parameter	Values/ Specification	Trial Directives
1.	ISI Marked	Yes	To be Physically Checked by Board of Officers.
2.	Material of Conductor	Aluminium	OEM Certification is required.
3.	No. of core (Aluminium)	3.5	To be Physically Checked by Board of Officers.
4.	Insulation	XLPE (Cross Polyethylene) Linked	OEM Certification is required.
5.	Type of outer Sheath	PVC	OEM Certification is required.
6.	Type of inner Sheath	Thermoplastic	OEM Certification is required.
7.	Nominal Cross Sectional Area of Conductor (in Sq mm)	35 SQ MM	OEM Certification is required.



**37. QRs & TDs of Aluminium Electrical Cable(3.5X 35 Sq mm) Aluminium Un-armoured for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

8.	Confirmation of Cable to	As per CI IS:7098 (Part-I) :1988 latest	OEM Certification is required.
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**Appendix-"A-37"**

**38. QRs & TDs of LED Flood Light 50 Watt for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S/No.	Parameter	Values/ Specification	Trial Directives
1.	Light source	SMD LED chip as per LM 80/IS16106	Govt. Accredited Lab Certification to be submitted.
2.	LED Rating	50 Watt	OEM Certification is required.
3.	Luminaire System Efficiency (lumen/watt)	>=130 lm/watt	OEM Certification is required.
4.	LED luminaire conformity	CRS of BIS as per IS:10322/part-V/section 5/2012 latest and IS:16107(part-II/sec1) :2012 latest	Govt. Accredited Lab Certification to be submitted.
5.	Input operating voltage	100V – 300 V AC , 50 Hz	To be Physically Checked by Board of Officers.
6.	IP protection	IP 67s	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
7.	Warranty	2 Years	Undertaking of Firm/Vender required
8.	Working life for LED	Minimum (50,000 burning Hrs as per LM-80 report)	OEM Certification is required.
9.	Length of ISI marked three core wire(shall be supplied with supply of material)	50 cm	OEM Certification is required.
10.	Operating temp. range	-10° C to 55° C	Govt. Accredited Lab Certification to be











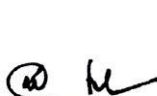








			submitted.
11.	Short Circuit/Overload/ Over Voltage/ Reverse Polarity Protection	Yes	OEM Certification is required.
12.	Mounting Brackets	Adjustable	To be Physically Checked BOO.

**Appendix-"A-38"**

<b>39. QRs &amp; TDs of Electronic Hooter for Electronic Surveillance of Vulnerable Patches (Ph-II) Project</b>			
<b>S/N</b>	<b>Parameter</b>	<b>Values/ Specification</b>	<b>Trial Directives</b>
1.	General	Electronic Hooter should be automatically able to generate sound alarm when alert is generated in the field of view of the camera	To be Physically Checked by Board of Officers.
2.	Max Sound pressure level	Minimum 100 dB or better	OEM certificate to be submitted
3.	Housing Material	Industrial Grade, UV Resistant, Flame retardant plastic or corrosion resistant metal	OEM certificate to be submitted
4.	Audio Output	Continuous sound up to 30 Second or as per System trigger duration	To be Physically Checked by Board of Officers.
5.	Amplifier	In Built	OEM Certificate to be submitted
6.	Compatibility	Able to integrate with PTZ, Bullet camera and NVR.	To be Physically Checked by Board of Officers.
7.	Operating Temp. Range in Celsius.	-10 <sup>0</sup> to +60 <sup>0</sup> or Wider Range	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.
8.	Weight	< 1.5 kg	To be Physically Checked by Board of Officers.
9.	Environmental protection	IP 66 or better	Govt. Accredited Lab Certification to be submitted.



### 39. QRs & TDs of Electronic Hooter for Electronic Surveillance of Vulnerable Patches (Ph-II) Project

10.	Reliability	Designed for 24X7 hrs operation	OEM Certificate to be submitted
11.	Power In Put	12/ 24 Volt DC / 110 V AC to 240 V AC	OEM Certificate to be submitted and To be Physically Checked by Board of Officers.
12.	Mounting bracket	Pole/tower/wall mounted	To be Physically Checked by Board of Officers.
13.	Warranty (Years)	2	MAF (Manufacturer Authorisation Form) to be submitted.
14.	Time For Replacement Of Defective Product During Warranty Period	72 hrs	Undertaking to be given by Bidder / Firm

(Ravi Gandhi), ADG  
(Log), BSF

(Rajeev Kumar), Comdt,  
CIBMS, BSF

(Mukesh Kumar), 2IC  
(SIW), BSF

(Aji K K), SP, BPR&D  
(through VC)

(Amit Tiwari), 2IC, ITBP

(Anil Rajput), DC, TIG  
Cell, BSF

(Chandrabhas Goliya),  
DC(CIBMS), BSF

(Vaibhav Saini), SC, 'F',  
IRDE, DRDO (through  
VC)

(Achintya Kumar), JDD,  
IB

(Kaustabh Saha), Dy.  
Director, DCPW

(Akshay Upadhyay),  
DC/Exc, CISF

(Lt. Col D C Pant), Assam  
Rifle (through VC)

(Pankaj Thapa), Asstt.  
Comdt, SSB

(G. Avinash), AC, CRPF

(Manoj Kr. Tyagi), AC,  
ITBP

(Capt. Santosh Singh),  
52 SAG(NSG)

(Inspr (RM) Bijendra  
Singh), CIBMS Cell, BSF

(SI/RM H N Mishra), SIW,  
BSF

Approved / not approved

Director General  
Border Security Force

29/8