

संख्या. पी-63013/154/02/2025/मोड-1/सी0सु0बल/ 1300-1304

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 20 अप्रैल 2025

वरिष्ठ तकनीकी निदेशक

The Senior 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)

Sub: Request for comments of stakeholders/OEM on draft QRs & TDs

कृपया गृह मंत्रालय के पत्र संख्या IV-24011/12/2011-Prov-I(part)(CFN 3300890)-1710 दिनांक 31st Aug 2015 के सन्दर्भ में।

2. उपरोक्त विषयान्तर्गत सूचित किया जाता है कि तकनीकी विशेषज्ञों के उप समूह द्वारा **“Equipment/Accessories of electronic Surveillance of Vulnerable patches (Trunkay Project)” (23 Nos QRs & TDs for Revision & 13 Nos QRs & TDs for formulation)** के गुणात्मक आवश्यकता/परीक्षण निर्देशों के मसौदों का प्रारूप दिनांक 16 अप्रैल 2025 को आयोजित सभा के दौरान तैयार किया गया, जिसको इस आशय से प्रेषित किया जा रहा है कि उक्त उपकरण के गुणात्मक आवश्यकता/परीक्षण निर्देश को गृह मंत्रालय की वेबसाइट पर 15 दिन के लिए अपलोड करने का श्रम करें।

संलग्न: उपरोक्तनुसार

(दिनेन्द्र सिंह पवार)
उप/कमाण्डेंट (मोड)

प्रतिलिपि :-

1. SO (IT), North Block, MHA : उपरोक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों के मसौदा को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।
(Through E-mail)
(E-mail address: soit@nic.in)
2. IT Wing, FHQ BSF : उपरोक्त उपकरण के गुणात्मक आवश्यकता /परीक्षण निर्देशों के मसौदे को सीमा सुरक्षा बल की वेबसाइट पर 15 दिन के लिए अपलोड करने का श्रम करें। आपसे अनुरोध है कि उक्त मसौदे को गृह मंत्रालय की वेबसाइट पर भी अपलोड करने हेतु निम्नलिखित पतों पर ई-मेल करने का श्रम करें:-
(a) Technical Director, NIC, North Block, MHA
(E-mail : mpsugandhi@nic.in)
(b) SO (IT), North Block, MHA
(E-mail : soit@nic.in)
3. ICT Dte (CIBMS) Cell, BSF : For information w.r.t your UO No.339 dated 26.03.2025.
4. File.

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
ब्लाक संख्या . 10, सीजीओ काम्पलैक्स, लोधी रोड, नई दिल्ली-03
(Email-comdtord@bsf.nic.in)
(Fax: 011-24367683)

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

दिनांक 28 अप्रैल 2025

विषय : “Equipment/Accessories of electronic Surveillance of Vulnerable patches (Trunkey Project)” के गुणात्मक आवश्यकता/परीक्षण निर्देशों पर हितधारकों/निर्माताओं/ विक्रेताओं की टिप्पणी के लिए अनुरोध।

“Equipment/Accessories of electronic Surveillance of Vulnerable patches (Trunkey Project)” के गुणात्मक आवश्यकता और परीक्षण निर्देशों को परिशिष्ट 'ए' के रूप में संलग्न किया गया है। हितधारकों/निर्माताओं/विक्रेताओं से अनुरोध किया जाता है कि वे उस उत्पाद की विस्तृत एवं स्टीक जानकारी दें। साथ ही प्रत्येक पैरामीटर के अनुरूप अपने उत्पाद के सही विवरणों को प्रस्तुत करें। सिर्फ 'अनुपालना' या 'अनुपालना नहीं' वाली टिप्पणी स्वीकार नहीं की जाएगी।

- क्या आप मूल उपकरण निर्माता/विक्रेता हैं?
- यदि विक्रेता मूल उपकरण निर्माता का विवरण देता है।
- मूल उपकरण निर्माता से प्राधिकरण प्रमाण पत्र।
- उत्पाद की मूल सूची।
- उत्पाद ब्रोशर एवं साहित्य रचना का ब्यौरा

1. आवश्यक जानकारी/विवरण 12 मई 2025 तक निम्नलिखित पते पर भेजे जा सकते हैं।

रसद निदेशालय, सीमा सुरक्षा बल
लेवल-8, ब्लाक-10,
केन्द्रीय कार्यालय परिसर, लोधी रोड,
नई दिल्ली-110003
ईमेल:- comdtord@bsf.nic.in

2. शीघ्र प्रतिक्रिया का अनुरोध किया जाता है।

(दिगेन्द्र सिंह पेंवार)
उप कमाण्डेंट (आधुनिकीकरण)

Government of India
Ministry of Home Affairs
Directorate General Border Security Force
(Prov Dte: Mod Cell)
Block No.10, CGO Complex, Lodhi Road, New Delhi-03
(Fax: 011-24367683, Email-comdtord@bsf.nic.in)

No. P-63013/154/02/2025/Mod-I/BSF/

Dated, the __April 2025

Subject : Request for comments of stakeholders/OEM/Firms on QRs (Qualitative Requirements) & TDs (Trial Directives) of “Equipment/Accessories of electronic Surveillance of Vulnerable patches (Trunkey Project)”

The draft QRs/TDs “**Equipment/Accessories of electronic Surveillance of Vulnerable patches (Trunkey Project)**” is attached as Appendix-‘A’. The OEMs/Vendors are requested to forward information of the product, which they can offer and also forward correct specifications of their system against each parameter. Only complied or not complied remarks will not be accepted. The firms are also requested to furnish the following details:-

- Whether you are OEM/Vendor?
- If vendor details of OEM.
- Authorization certificate from OEM.
- Original catalogue of the product
- Brochure/Literature of the product

2. The required information/details may please be forwarded at the following addresses by 12 May 2025.

Directorate General BSF,
Level-8, Block No. 10,
CGO Complex, Lodhi Road,
New Delhi-110003
Email: comdtord@bsf.nic.in

3. An early response is requested.

(Digendra Singh Panwar)
Dy. Commandant (Mod)

1. PTZ Camera with IR(QRs and Trial Directive) for Electronic Surveillance of Vulnerable Patches Project Phase-II

S / No.	Parameter	Value/specification	Trial Directive	Remarks
		PTZ Camera with IR 400 Mtr Phase-II	PHASE-II	
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 and to be Physically Checked by Board of Officers	
4.	Resolution	2K (2560 × 1440) or better	OEM Certification required and To be Physically Checked by Board of Officers.	
5.	Day & Night Capable	Yes	To be Physically Checked by Board of Officers.	
6.	IR Illumination Range (Mtr.) in fair weather Conditions.	400 or Better	OEM Certification required and To be Physically Checked by Board of Officers.	
7.	Frame Rate (fps)	30 or Better	OEM Certification required.	
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.	
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	70 dB or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	

S / No.	Parameter	Value/specification	Trial Directive	Remarks
		PTZ Camera with IR 400 Mtr Phase-II	PHASE-II	
14.	On Board SD Card Support (Removable)	Yes	To be Physically Checked by Board of Officers.	
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.	
18.	Protection	IP 67	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
19.	Vandal Resistant Housing	Yes	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/ 24 V DC/ 24VAC (With adapter to be provided), PoE	To be Physically Checked by Board of Officers.	
22.	Operating Temp. Range in Celsius.	-10 ⁰ to +60 ⁰ or Wider Range	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
23.	Warranty (Years)	2	MAF (Manufacturer Authorisation Form) to be submitted.	
24.	Time For Replacement Of Defective Product During Warranty Period (Hrs)	72	Undertaking to be given by Bidder / Firm	
25.	BIS Registration for Safety General requirements as per IS 13252 (Part 1)	Yes	BIS registration certificate to be submitted	

S / No.	Parameter		Value/specification	Trial Directive	Remarks
			PTZ Camera with IR 400 Mtr Phase-II	PHASE-II	
	Latest				
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.	
29.	PTZ Camera		Yes	To be Physically Checked by Board of Officers.	
30.	Optical I 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,T Profile	Firm/Bidder to submit the requisite certificate.	
33.	Certification		STQC, FCC, CE, UL/ BIS	OEM certification to be submitted by the vendor.	
34.	Pan and Tilt Mechanism : Motorized Pan and Tilt unit with variable speed control.	Pan (Azimuth) range/ Pan speed	0° to 360° endless, with configurable variable speed.	To be Physically Checked by Board of Officers	
		Tilt (Elevation)	+15° (min) to -90° (min) or better with configurable variable speed.		
		Pre-set	100 (minimum)		
		Pattern	4 (minimum)		
			(Pre-set/Pattern /Auto scan)		
35.	API/SDK		i) To be provided in optical storage. ii) Firm to share API & SDK for integration with third party Command & Control	i) OEM undertaking for sharing of API & SDK to be provided. ii) To be Physically Checked by Board of Officers.	

S / No.	Parameter	Value/specification	Trial Directive	Remarks									
		PTZ Camera with IR 400 Mtr Phase-II	PHASE-II										
		software.											
36.	Intelligent Video Analytics (AI)	i) Intrusion detection area/excluded zone Interest/non interest zone ii) Smart motion Detection iii) Virtual trip line iv) EIS (Electronic image Stabilization) Parameters i to iv) Should be alarm supported.	To be Physically Checked by Board of Officers.										
37.	Operational Range In clear weather day light condition	<table><tr><td colspan="3">Operational Range In clear weather day light condition (Human target) with Zoom</td></tr><tr><td>Detection</td><td>Recognition</td><td>Identification</td></tr><tr><td>Up to 1500 mtr</td><td>Up to 700 mtr</td><td>Up to 300 mtr</td></tr></table>	Operational Range In clear weather day light condition (Human target) with Zoom			Detection	Recognition	Identification	Up to 1500 mtr	Up to 700 mtr	Up to 300 mtr	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	
Operational Range In clear weather day light condition (Human target) with Zoom													
Detection	Recognition	Identification											
Up to 1500 mtr	Up to 700 mtr	Up to 300 mtr											
38.	Illuminator Distance	400 m (IR) or better, (With or without Zoom.)	To be Physically Checked by Board of Officers.										
39.	Smart IR	Yes (the IR should auto on/off according to light condition)	To be Physically Checked by Board of Officers.										

Appendix-"B"

2. Bullet Camera with IR (ORs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project Phase-II

S/No.	Parameter	Values/ Specification	Trial Directive	Remarks
		PHASE-II 100 MTR	PHASE-II 100 MTR	
1.	Image Sensor Type	CMOS	OEM Certification required.	
2.	Image Sensor Size (Min.)	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 and to be Physically Checked by Board of Officers.	
4.	Resolution	2K (2560×1440) or better	OEM Certification required and to be Physically Checked by Board of Officers.	
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	OEM Certification required and 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)	30 or Better	OEM Certification required.	
9.	Video Compression	H .265+ or better	OEM Certification required.	
10.	Video Streaming	Triple Compressed Stream	OEM Certification required.	
11.	Audio Support	Bi-directional	To be Physically Checked by Board of Officers.	

12.	Minimum Illumination for capturing Colour Image	.005 Lux	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	70 dB or better	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
15.	On Board SD Card Support	Yes	To be Physically Checked by Board of Officers.	
16.	SD Card Memory(GB)	256 or better	To be Physically Checked by Board of Officers.	
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	Yes	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 (12 V DC)	To be Physically Checked by Board of Officers.	
23.	Operating Temp. Range in Celsius.	-10 ⁰ to +60 ⁰ C or better Range	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
24.	Warranty (Years)	2	MAF (Manufacturer Authorization Form) to be submitted.	
25.	Time For Replacement Of Defective Product During	72	Firm / Bidder to submit the Undertaking.	

	Warranty Period (H)			
26.	BIS Registration for Safety General requirements as per IS 13252 (Part 1) 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.	
30.	ONVIF Support	S,G,T Profile	Firm/Bidder to submit the requisite certificate.	
31.	Certification	STQC ,FCC, CE, UL/ BIS	OEM / Vendor self-Certification Required.	
32.	API/SDK	i) To be provided in optical storage. ii) Firm to share API & SDK for integration with third party Command & Control software.	i) OEM undertaking for sharing of API & SDK to be provided. ii) To be Physically Checked by Board of Officers.	
33.	Intelligent Video Analytics (AI)	i) Intrusion detection area/excluded zone Interest/non interest zone ii) Smart motion Detection iii) Virtual trip line iv) EIS (Electronic image Stabilization) Parameters i to iv) Should be alarm supported.	To be Physically Checked by Board of Officers.	

3. 16 CHANNEL NVR QRS AND TRIAL DIRECTIVE FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT PHASE-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
		16 Channel NVR Phase-II	32 Channel NVR Phase-II	
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	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)	OEM 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 Certification required.	
13.	Supported Video Compression Technique	H.265+ or better	OEM Certification required.	

14.	Total Number of simultaneous local Views (Min)	02	OEM Certification required and 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	OEM Certification required.	
17.	Type of Encryption	HTTPS (SSL/TSL)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted/ required.	
18.	Alarm Support	Yes	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
19.	Operating System Supported	Windows/Linux	To be Physically Checked by Board of Officers.	
20.	Video Content Analytics (VCA)	Not Mentioned	Not Mentioned	
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	Govt. Accredited Lab Certification to be submitted	
24.	Operating Temperature (in degree Celsius)	-10° to +60 °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	230±10 %, 50 Hz, 12 V DC/ 24 V DC	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 Officers.	
30.	Number of Hard Disks supported (Min)	02	In this regard Firm/Bidder will Submit OEM	

			Certificate	
31.	POE support	Yes	To be Physically Checked by Board of Officers.	
32.	Live camera Grid	Selectable 1/4/8/16	To be Physically Checked by Board of Officers.	
33.	Resolution support	8MP,, 5MP & 4MP	To be Physically Checked by Board of Officers.	
34.	Picture in Picture facility	Yes	To be Physically Checked by Board of Officers.	

4. 32 CHANNEL NVR (QRS AND TRIAL DIRECTIVE) for ESVP(Electronic Surveillance of Vulnerable Patches) project
Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
		32 Channel NVR Phase-II	32 Channel NVR Phase-II	
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	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 (Min)	04	OEM certification required	
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 (H)	72	OEM certification required	
13.	Supported Video Compression Technique	H.265+or better	OEM 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)	256	OEM certification required	
17.	Type of Encryption	HTTPS (SSL/TSL)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted..	
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.	Supported Interface	Ethernet, HDMI, USB	To be Physically Checked by Board of Officers.	
21.	Physical Layer of Ethernet	10/100/1000 Base TX	OEM / Vendor Self Certification required	
22.	BIS Registration for safety general requirement as per IS: 13252 (Part 1) : latest	Yes	BIS registration certificate to be submitted	
23.	Operating Temperature (in degree Celsius)	-10° to +60 °C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted	

24.	Relative Humidity Non Condensing (in percentage)	90 %	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
25.	Power Input	230±10 %, 50 Hz, 12 V DC/ 24 V DC	OEM / Vendor Self Certification required.	
26.	Internal Hard Drive Interface	SATA III	OEM / Vendor Self Certification required.	
27.	Number of Hard Disks (Inclusive in the scope of supply)	02	OEM / Vendor Self Certification required	
28.	Storage Capacity of each Hard Disk (TB)	10	OEM / Vendor Self Certification required	
29.	Number of Hard Disks supported (Min)	02	In this regard OEM / Vendor Self Certification required	
30.	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	
31.	Video recorder supports recording on NAS Directly	Yes	OEM / Vendor Self Certification required	
32.	POE support	Yes	To be Physically Checked by Board of Officers.	
33.	Live camera Grid	Selectable 1/2/4/8/16/32	To be Physically Checked by Board of Officers.	
34.	Resolution support	8MP, 5MP & 4MP	To be Physically Checked by Board of Officers.	
35.	Picture in Picture facility	Yes	To be Physically Checked by Board of Officers.	
36.	Optical mouse, hooter and Joystick with twisting return to center head (01 No. each)	Yes	To be Physically Checked by Board of Officers	

Appendix-"E"**5. DVR/XVR(HVR) with 04 Ports input Channel(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
		PHASE-II	PHASE-II	
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	1.5 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	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 certification required	

13.	Warranty (Years)	02	MAF (Manufacturer Authorisation Form) to be submitted.	
14.	Time For Replacement Of Defective Product During Warranty Period (H)	72	OEM certification required	
15.	Supported Video Compression Technique	H.265+or better	OEM certification required	
16.	Number of simultaneous local Views (Min)	01	To be Physically Checked by Board of Officers.	
17.	Recording speed for all channels (fps)	30 or Better	To be Physically Checked by Board of Officers.	
18.	Minimum Through put (Mbps)	24	OEM / Vendor Self Certification required.	
19.	Type of Encryption	HTTPS (SSL/TSL)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
20.	Alarm Support	Yes	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	BIS registration certificate to be submitted	
25.	Operating Temperature (in degree Celsius)	-10° to +60 °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 ±10 %, 50 Hz,	To be Physically Checked by Board of Officers.	

28.	Number of Hard Disks supported (Min)	01	Firm/ Bidder will submit OEM Certificate.	
29.	Search	Date, Time, Event	To be Physically Checked by Board of Officers.	
30.	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.	
31.	Video recorder supports recording on NAS Directly (Optional)	Yes	OEM / Vendor Self Certification required.	

6. **MONITOR (QRS AND TRIAL DIRECTIVE) for ESVP (Electronic Surveillance of Vulnerable Patches) project**

S / No	Parameter	Value	Trial Directive	Remarks
		Monitor 55 inch PHASE- II	Monitor 55 inch PHASE- II	
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 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	BIS registration certificate 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.	
15.	VGA Port	Yes	To be Physically Checked by Board of Officers.	
16.	HDMI Port	Yes		
17.	USB Port	Yes		
18.	Accessories to be supplied : AC Power cord, remote control, user manual, wall mount bracket, necessary cables and connectors	Yes		
19.	Grade	24 x 7 commercial grade	OEM / Vendor Self Certification required.	

7. Point to Point Radio Link(Wireless Bridge)(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project

S / No	Parameter	Values/ Specification	Trial Directive	Remarks
		PHASE-II	PHASE-II	
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	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.	<i>WPC Certified</i>	Yes	OEM Certification is required	
18.	<i>Wireless Certification</i>	FCC/BIS	OEM Certification is required.	
19.	<i>RoHS Compliance</i>	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.	

8. **24 Core OFC (FRP Armoured) (QRs And Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project****Phase-II**

(To be Used for Multiple Deployment (Underground / Aerial) Scenario)

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
1.	Type of tube / no. of tube / no. of core per tube	Multitude/ 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	12	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	-20° C to 70° C	OEM Certification is required.	
7.	Storage Temperature Range	-20° C to +60° C	OEM Certification is required.	
8.	Installation Temperature Range	-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	OEM Certification is required.	

		resistant HDPE		
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-"I"**9. L-2 Switch,4 SFP, 08 Copper Port, QRs And Trial directive for ESVP(Electronic Surveillance of Vulnerable Patches) project,**
Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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	02-LR (fully loaded with SFP Module)	OEM Certification is required	
5.	Multi-Gigabit Support	Yes	OEM Certification is required	
6.	Onsite OEM warranty	2 Years	MAF to be submitted by Firm/Vendor	
7.	Switching Capacity – Non blocking	20 Gbps	OEM Certification is required.	

Appendix-“J”**10. L-2 Switch, 08 Ports(QRs And Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II**

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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.	Onsite OEM warranty	2 Years	MAF to be submitted by Firm/Vendor.	

Appendix-"K"**11. LIU 24 PORT(QRs And Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, phase-II**

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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	Govt. Accredited Lab Certification to be submitted.	
11.	Spliced Tray	Loaded	To be Physically Checked by Board of Officers.	

Appendix-“L-I”**12. ONLINE UPS, 3KVA(QRS AND TRIAL DIRECTIVE) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, Phase-II**

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
1.	Rating in KVA (KVA)	3 KVA	To be Physically Checked by Board of Officers.	
2.	Technology	IGBT – PWM without inbuilt isolation transformer	OEM / Vendor Self 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.	
5.	Rack for battery	Required	To be Physically Checked by Board of Officers.	
6.	Warranty of BTY	18 Months or more	MAF should submitted by Firm/Bidder.	
7.	Degree of protection	IP 20	Govt. Accredited Lab Certification to be submitted	
8.	Cabling 5 Meter for Input and Output	required	To be Physically Checked by Board of Officers.	
9.	Paralleling kit for synchronization.	Required	To be Physically Checked by Board of Officers.	
10.	Type of Battery	Lithium ion	To be Physically Checked by Board of Officers.	
11.	20% Overload Limit for Min 10 Minutes	Yes	OEM Certification required.	
12.	Overall Efficiency (%)	\geq 92%	OEM Certification required.	

13.	50% Overload Limit for Min 1 Minutes	Yes	OEM Certification required.	
14.	Back up time (Hrs)	12	To be Physically Checked by Board of Officers as per interim load table enclosed.	
15.	Minimum VAh	5400	To be Physically Checked by Board of Officers.	
16.	Warranty of UPS (Years)	2 Year	MAF should submitted by Firm/Bidder.	
17.	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.	
18.	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.	
19.	Protection of over voltage, Short circuit, Overload at UPS terminal with alarm.	Yes	To be Physically Checked by Board of Officers.	
20.	Input connection	3 Wire (1Ph + 1 N + 1E)	To be Physically Checked by Board of Officers.	

Appendix-“L-II”

**13 Battery 12Volt for Inverter(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project,
Phase-II**

S/ No.	Parameter	Values/ Specification	Trial Directive	Remarks
1.	Material of container	Polypropylene / ABS	Govt. Accredited Lab Certification to be submitted.	
2.	Rated capacity at C/20 discharge (AH)	200	Govt. Accredited Lab Certification to be submitted.	
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 years	MAF to be submitted by Firm/Vendor	
7.	Dimensions (L x W x H)	As per relevant IS specifications	MAF to be submitted by Firm/Vendor	

Appendix-“M”

14 Fiber Patch Cord (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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	

15. PIG TAIL (QRS AND TRIAL DIRECTIVE) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES)
PROJECT, PHASE-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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	

16. CAT 6 CABLE(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S / No.	Parameter	Values/ specification	Trial directive	Remarks
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 ⁰ C to +60 ⁰ 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.	

17. Cabinet for Switch(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S/No	Parameter	Values/ Specification	Trial Directive	Remarks
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	OEM Certification is required.	
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.	
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	Govt. Accredited Lab Certification to be submitted.	
17.	Warranty	2 Years	MAF is to be submitted by Firm/Vender	

18. OTDR (Optical Time Domain Reflectometer) (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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)	≤ 4 Meter	OEM Certification is required.	
6.	Display	Colour Display. Touch Screen	To be Physically Checked by Board of Officers	
7.	Display Size	≥ 4 Inch	To be Physically Checked by Board of Officers	
8.	Connectivity Interface	RJ45, USB	To be Physically Checked by Board of Officers	
9.	External Storage Capacity Inclusive In the Scope of Supply (GB)	32 GB or better	To be Physically Checked by Board of Officers	
10.	Power Source	Internal 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.	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 ⁰ C to + 50 ⁰ 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.	

19. Fiber Optic Fusion Splicer (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project,
Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	
		PHASE-II	PHASE-II	
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 Batter	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	

20. Fiber Optic Tool Kit (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
1.	LED Headlight Wattage	1 Watt	To be Physically Checked by Board of Officers.	
2.	Kit Content	<p>Fiber optic power meter, Cleaner, Fiber Cleaver, 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,</p> <p>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</p>	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	

21. Camera Shed(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
		PHASE-II	PHASE-II	
1.	Camera Shed	To provide due protection to the Cameras from rain and sunlight.	MAF is to be submitted by Firm & To be Physically Checked by Board of Officers.	
2.	Material	ABS/Aluminium/Iron	MAF is to be submitted by Firm & To be Physically Checked by Board of Officers.	
3.	Mounting Mechanism	Pole/Wall	To be Physically Checked by Board of Officers.	

Appendix-“R”

22. OUTDOOR CABINETS FOR INVERTER(QRS AND TRIAL DIRECTIVE) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
1.	Outdoor Cabinet Material	Type of Metal : sheet metal powder coated	OEM certification required & To be Physically Checked by Board of Officers.	
2.	Provision of Lock	Yes	OEM certification required & 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.	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-“R”

**23. Bamboo LIU (OFC Splice Closure) (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project,
Phase-II**

S/ No.	Parameter	Values/ Specification	Trial Directive	Remarks
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 ⁰ C to +60 ⁰ 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. SPIKE BUSTER (QRS AND TRIAL DIRECTIVE) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
		PHASE-II	PHASE-II	
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 ⁰ C to +60 ⁰ C	OEM/ Firm Certification	

25. 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 AND OFC ROUTE MARKER ETC (QRS AND TRIAL DIRECTIVE) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT,

PHASE-II

26.

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
		PHASE-II	PHASE-II	
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	
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.	-	
8.	Cat 6 Patch cord	Standard Quality of different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted	
9.	HDMI CABLE	Standard Quality of different sizes to be provided as per requirements	Firm/Bidder Undertaking to be submitted	

10.	RJ 45 connector	Standard Quality to be provided.	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.	

1. <u>NVR WITH 24 PORTS INPUT CHANNEL(QRS AND TRIAL DIRECTIVE) ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II</u>				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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	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 (Min)	02	To be Physically Checked by Board of Officers.	
10.	Recording Resolution.	4K (3840 X 2160)	OEM / Vendor Self Certification required.	

1. <u>NVR WITH 24 PORTS INPUT CHANNEL(QRS AND TRIAL DIRECTIVE) ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II</u>				
11.	Warranty (Years)	02	MAF (Manufacturer Authorisation Form) to be submitted.	
12.	Time For Replacement Of Defective Product During Warranty Period (H)	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)	25 or better	To be Physically Checked by Board of Officers.	
16.	Minimum Through put (Mbps)	256	OEM / Vendor Self Certification required.	
17.	Type of Encryption	HTTPS (SSL/TSL)	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
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.	Supported Interface	Ethernet, HDMI, USB	To be Physically Checked by Board of Officers.	
21.	POE support	Yes	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	Govt. Accredited Lab Certification to be submitted.	

1. <u>NVR WITH 24 PORTS INPUT CHANNEL(QRS AND TRIAL DIRECTIVE) ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II</u>				
24.	Operating Temperature (in degree Celsius)	-10° to +60 °C	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
25.	Relative Humidity Non-Condensing (in percentage)	90 %		
26.	Power Input	230±10 %, 50 Hz, 12 V DC/ 24 V DC	OEM / Vendor Self Certification required	
27.	Live camera Grid	Selectable 1/2/4/8/16/24	To be Physically Checked by Board of Officers.	
28.	Resolution support	8MP, 5MP & 4MP	To be Physically Checked by Board of Officers.	
29.	Picture in Picture facility	Yes	To be Physically Checked by Board of Officers.	
30.	Internal Hard Drive Interface	SATA III	To be Physically Checked by Board of Officers.	
31.	Number of Hard Disks (Inclusive in the scope of supply)	02	To be Physically Checked by Board of Officers.	
32.	Storage Capacity of each Hard Disk (TB)	10	To be Physically Checked by Board of Officers.	
33.	Number of Hard Disks supported (Min)	02	In this regard Firm/Bidder will submit OEM Certificate	
34.	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.	
35.	Video recorder supports recording on NAS Directly	Yes	OEM / Vendor Self Certification required.	
36.	Optical mouse, hooter and Joystick with twisting return to center head (01 No. each)	Yes	To be Physically Checked by Board of Officers.	

2. MONITOR QRS AND TRIAL DIRECTIVE (43 INCH LED DISPLAY) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II

Remarks

S / No.	Parameter	Values/ Specification	Trial Directive	
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.	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	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 ² 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	

2. <u>MONITOR QRS AND TRIAL DIRECTIVE (43 INCH LED DISPLAY) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II</u>				Remarks
			submitted.	
16.	VGA Port	Yes	To be Physically Checked by Board of Officers.	
17.	HDMI Port	Yes	To be Physically Checked by Board of Officers	
18.	USB Port	Yes	To be Physically Checked by Board of Officers	
19.	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	

3. <u>24 CORE OFC QRS AND TRIAL DIRECTIVE FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II</u>				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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 (out door)	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.	OEM Certification is required.	
10.	Moisture barrier protection	By Thixotropic flooding compound (Jelly)	OEM Certification is required	
11.	Material of Inner Sheath	Core covered with Tough UV resistant HDPE	OEM Certification is required.	

3. 24 CORE OFC QRS AND TRIAL DIRECTIVE FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II

12.	Tensile Load (Short Term)	2000 N	OEM Certification is required.	
13.	Outer Jacket(Sheath)	High Density Polyethylene (UV).	OEM Certification is required.	
14.	Minimum Bend Radius(installation)	20 x OD (20 times diameter of cable)	OEM Certification is required.	
15.	The Fibers in cable length	Without joint.	OEM Certification is required.	
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	

4. OFF GRID INVERTER 3 KVA QRS AND TRIAL DIRECTIVE FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
1.	Rating in KVA & Min. VAH Capacity of battery	3 KVA Without battery	To be Physically Checked by Board of Officers.	
2.	Technology	MOSFET – PWM 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.	Size of solar Plate	As per standard size.	Firm/Bidder to submit undertaking that total number of solar plates being installed, are sufficient to meet the load demand specified by the user.	
11.	Inverter Governing specification	Generally confirming to IS :13314	NABL / ILAC/ Govt. Accredited Lab Certification to be submitted.	
12.	Degree of protection	IP 20		

4. <u>OFF GRID INVERTER 3 KVA QRS AND TRIAL DIRECTIVE FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II</u>				
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.	

5. STATIC VOLTAGE STABILIZER (SVS) 3 KVA(QRS AND TRIAL DIRECTIVE) FOR ESVP(ELECTRONIC SURVEILLANCE OF VULNERABLE PATCHES) PROJECT, PHASE-II

S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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 5 % single phase AC	To be Physically Checked by Board of Officers.	
5.	Regulation Type	Relay	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			
9.	Over temperature protection	Auto shutdown at 120° 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.	
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.	

6. Media Converter with 1 Port QRs and Trial Directive for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II					
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks	
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	1 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 adopter	To be Physically Checked by Board of Officers		
4.	Environmental Specification				
	Operating Temp	0° C ~ 55°C	OEM / Vendor Self Certification required.		
5.	Storage Temp	-10° C ~ 70°C			
6.	Certification	FCC and CE			
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 v) IEEE 802.3x flow control	OEM / Vendor Self Certification required.		

7. Media Converter with 2 Port(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II					
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks	
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 adopter	To be Physically Checked by Board of Officers		
4	Environmental Specification				
5	Operating Temp	0° C ~ 55°C	OEM / Vendor Self 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.z 1000 base-SX/LX iii) IEEE 802.3x flow control	OEM / Vendor Self Certification required.		

8. 4 U RACK QRs and Trial Directive for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II				
S/No.	Parameter	Values/ Specification	Trial Directive	Remarks
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)	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	

**9. 6 U RACK (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project,
Phase-II**

S/No.	Parameter	Values/ Specification	Trial Directive	Remarks
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	

10. Copper Electrical Cable(2X 4 Sq mm)(QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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.	Govt. Accredited Lab Certification to be submitted.	

11. Aluminium Electrical Cable(2X 25 Sq mm) Aluminium Un-armoured (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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.	
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	Govt. Accredited Lab Certification to be submitted.	

12. Aluminium Electrical Cable(3.5X 35 Sq mm) Aluminium Un-armoured QRs and Trial Directive for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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 Linked Polyethylene)	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.	
8.	Confirmation of Cable to	As per CI IS:7098 (Part-I) :1988 latest	Govt. Accredited Lab Certification to be submitted.	

13. LED Flood Light 50 Watt (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II				
S / No.	Parameter	Values/ Specification	Trial Directive	Remarks
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 67	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.	

13. LED Flood Light 50 Watt (QRs and Trial Directive) for ESVP(Electronic Surveillance of Vulnerable Patches) project, Phase-II			
12.	Mounting Brackets	Adjustable	To be Physically Checked by Board of Officers.

Note :

- (i) *Camera with Hi Silicone chipset is not allowed.*
- (ii) *All the parameters mentioned above are basic qualitative requirement as per project. If the better values / specifications are offered against above mentioned parameter/s by the bidder/firm shall be considered.*

तकनीकी विशेषज्ञों के उप समूह द्वारा यह निश्चित किया गया है कि उक्त गुणात्मक आवश्यकता को अधिक बेहतर बनाने के लिए गृह मंत्रालय एवं सीमा सुरक्षा बल की वेबसाईट पर विक्रेताओं/फर्मों के सुझाव प्राप्त करने हेतु 15 दिन के लिए अपलोड किया जाए।

नोट - सभी विक्रेताओं/फर्मों से निवेदन है कि अपने सुझावों के साथ निम्नलिखित कागजात संलग्न कर ई-मेल पता comdtord@bsf.nic.in पर भेजने का श्रम करें:-

1. उत्पाद की वास्तविक विवरण पुस्तिका।
2. उत्पाद की साहित्यिक रचना का ब्यौरा।
3. गुणात्मक आवश्यकताओं के उपर व्यापक टिप्पणीयों।

(दिगेन्द्र सिंह पवार)
उप कमांडेण्ट (आधुनिकीकरण)