

GOVERNMENT OF INDIA  
(Ministry of Home Affairs)  
DIRECTORATE GENERAL

E-220  
07/05/2019

CENTRAL RESERVE POLICE FORCE

**EAST BLOCK-7, SEC-1, R.K. PURAM, NEW DELHI-110066**

Email:- [comncell@crpf.gov.in](mailto:comncell@crpf.gov.in) Tele Fax:011-26107493

No. B.V-7/2019-20-C (QRs)  
To

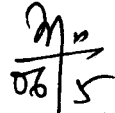
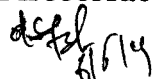
Dated, the 07<sup>th</sup> May 2019

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|---|--|
| 1. DIG (Comn), ITBP<br>Block No. 2, CGO Complex<br>Lodhi Road, New Delhi-03 | 2. DIG (Comn), NSG<br>Meharam Nagar<br>Palam, New Delhi-37                       |
| 3. DIG (Comn), SSB<br>East Block-V, R.K Puram<br>New- Delhi-66              | 4. AIG (Comn), CISF<br>Block No. 13, CGO, Complex<br>Lodhi Road, New Delhi-03    |
| 5. DIG (Prov), BSF<br>Block No. 10, CGO Complex<br>Lodhi Road, New Delhi-03 | 6. Liaison Office, Assam Rifle<br>Room No-171, North Block, MHA<br>New Delhi -01 |

**Subject: Regarding QRs/TDs of Communication Equipments.**

Please find enclosed herewith QRs and TDs of Nano UAV & X-BIS Simulator System as Annexure-A & Annexure-B respectively duly approved by the competent authority for further necessary action.

Encl: (QRs & TDs of subject items)

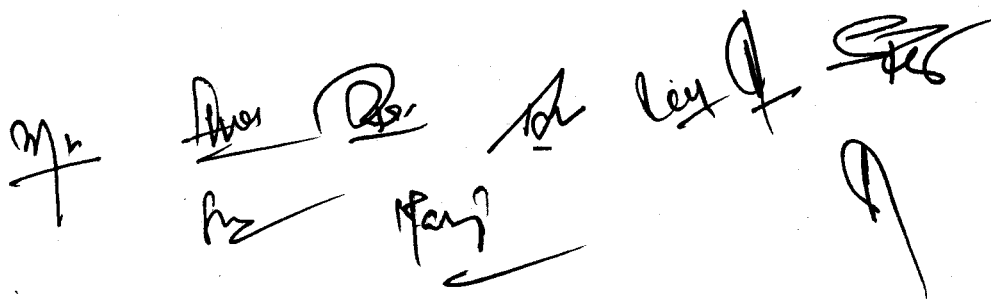
  
{P.R.Jha, DC (Comn)}  
**For DIG (Equipment)**  
Directorate General, CRPF  


**QRs of X-BIS Simulators System**

S.N	Parameter	
1.	It should be computer based programme specially designed for the training of civil aviation security personnel. The programme should be focused on making the security personnel efficient to detect and identify the threat objects at the checkpoints. The system should simulate similar environment as if security personnel are checking the baggage with the help of a X-Ray machine.	
2.	The system should consist of 2 parts- Theory and simulator. It should have a comprehensive and interactive training package for training, testing and recording the performance of the screeners. It should have provision for Basic Training, Recurrent Training, Certification Test, Performance Test and item library of at least 5000 images of a right mix of threat bags, suspicious bags and clear bags. These images should form a part of the package.	
3.	The system should have the capability to be installed on single standalone workstation, a classroom over a dedicated local area network (LAN), over a wide area network (WAN) and at any remote work station through internet. The system should provide all the users (trainee, trainer and administrator) their own unique and secure logons. The system should be able to support a class of minimum 25 screeners and one instructor and should be upgradable for up to 250 screeners in future. The up-gradation of up to 250 workstations can be either in the existing location or at remote locations connected through LAN/WAN/Internet.	
4.	<b>The system should be provided with all the hardware components required for the purpose with following broad specifications. Client Node/Workstation:</b>	
a	CPU	Latest generation Intel Core i3/ equivalent or higher from same or other Chipmaker/OEM
b	Graphics & Chip Set	Integrated/Dedicated Graphics card with at least 2 GB RAM on Compatible OEM Mother board.
c	RAM Memory	4 GB, DDR4, 2400 MHz or higher. Expandable up to 16 GB.
d	Hard Disk Drive	Minimum 1 TB 7200 rpm SATA HDD or higher
e	Monitor	22" HFD Antiglare monitor or higher.
f	Keyboard	104 keys
g	Mouse	Optical

Mm, [Signature], [Signature], [Signature], [Signature], [Signature]

S.N	Parameter	
h	Ports	6 USB (2.0 or above) Port (With at least 2 in front), 2 ports for microphone and head phone respectively in front. One or more HDMI port supporting latest version of connectivity.
i	Head Phones	Covering the ear but not of ear plug type.
j	Cabinet	Mini Tower
k	Networking facility	802.11 a/b/c/n/ac Wireless networking capability alongside 10/100/1000 on board integrated network port with remote booting facility, remote system installation, remote wake up.
l	Operating system	Latest iteration of Windows Operating System (OS) or equivalent from other OEMs with all the latest system & security updates.
m	Power management	Screen Blanking, Hard Disk and system Idle Mode in Power On, Set up Pass word, power supply SMPS surge protected.
n	Preloaded software	Latest iteration of desktop antivirus with 360 deg protection.
o	Support	For 5 years for up-gradation of technology
p	Printer	Laser printer-color, Paper size-A4, DPI- 600x600, speed-20 ppm BW, C-Port, 1 USB Memory 16 MB, Network card 10/100, duplex, Wi-Fi Connectivity
q	UPS	Online UPS, 2 X 3.0 KVA, Single phase AC, Input and single phase AC output with back up time of 120 minutes.
<b>5. Specification of Server :</b>		
i.	Housing types	Rack/Tower
ii.	Processor type	Intel® Xeon ® Silver processor base 2.2 GHz (Scalable type) equivalent or higher from other OEM with RAM 10 GB DDR4 or higher, expandable upto 64 GB.
iii.	Chip Set	Intel® C624 equivalent or higher from other OEM
iv.	Processor Quantity	2 Nos
v.	Processor core available	10 or more core per processor


 A collection of handwritten signatures and initials in black ink, including names like 'Mr. Anurag', 'Mr. Anurag', 'Mr. Anurag', 'Mr. Anurag', 'Mr. Anurag', and 'Mr. Anurag'.

S.N	Parameter	
vi.	Processor cache	38.50 MB L3-8.25 MB L3, depending on model SKU
vii.	Processor Speed	3.6 GHz, maximum depending on processor SKU
viii.	Slots	4 PCI/PCI Express
ix.	Memory	1.0 TB DDR4 DIMM
x.	Memory Expendable upto	3.0 TB
xi	Memory slot	24 DIMM slots (12 DIMMs pre CPU)
xii	RAID Controller supported	0/1/5/10
xiii	SATA Controller	1Xsata Channel for ODD
xiv	Monitor	22" or higher FHD Antiglare monitor.
xv	Drive Bays	4 Bays (Minimum 2 internal)
xvi	Storage Drive Bays	3.5 inch or 2.5 inch hot-plug SAS/SATA
xvii	Accessible drive Bays	1x5.25/0.4-inch for RW/ DVD
xviii	Ports	6 USB( 2.0 or above) port
xix	LAN Controller	"4x1Gbit/s Ethernet (Rj45) 2 x 10 Gbit/s SFP+"
xx	Operating system	Should support Window 2010/2012/2016 or latest; or Linux
xxi	Power	Hot -plug Dual power.
xxii	Anti Virus	Latest iteration of Server antivirus with 360 deg protection.
xxiii	Virtualization	VM Ware or any other equivalent virtualization system/software/facility on board
xxiv	Support	5 Years for Technical Up-gradation
xxv	<p>The above mentioned configurations of the server &amp; its client nodes/workstations are minimum standards. These are not exhaustively listed and other configuration details of client node and server system will be standard or higher so as to efficiently support each and every individual nod independently with the client module as host and an independent server module with the XBIS Simulator system with concurrent service to sharing of resources with minimum of 25 to maximum of 250 client nodes.</p>	

A collection of handwritten signatures and initials in black ink, including a large signature on the left, several smaller signatures in the middle, and a signature on the right with a checkmark below it.

S.N	Parameter
<b>Training requirement :</b>	
6	The system should be designed to train the security personnel on all such make/model of X-Ray machines in use at Indian airports and at foreign countries as well. It shall be machine independent and support forward and backward compatibility.
7	As per BCAS Circular 11/2017 all future procurements of X-BIS machine should have dual view image system. Thus, computer based programme should also have dual view image system as its feature.
8	The software should provide tailored training programme as applied to TIP (Threat Image projection) in the X-BIS. In this, the software automatically detects the weak areas (Detection of prohibited items) of a trainee and enhances the number of such threats automatically so that more practice can be given to a trainee in area of weakness.
9	The system should have the feature of ongoing training i.e. the trainee should be able to resume his class where he was last at.
10	The system should have the ongoing certification process to check the ability level of the screener to identify threat images. It should have multi-level class structure with gradual increase in difficulty and complexity levels i.e. Beginner, Intermediate, Advanced and Expert kind of tutorials and practicals.
11	The system should be able to educate the screener from 0 % level to an approved level within 40 teaching hours. It should also have the flexibility for meeting the training requirement of various categories of screeners based on their competence level i.e. from novice to expert.
12	It should have various tests designed to test the level of trainees at the start and end of the course. It should also have progress charts right from the beginning to the end for evaluation of the expertise achieved by the trainee during the course.
13	If the trainee fails to identify/ interpret a threat object image in a bag in a particular class level he/she shall not be auto promoted to the next level. He/She shall be subject to interpretation of that type of images multiple times and until and unless he successfully interprets image in his/her all subsequent attempts he/she shall remain in that class or level.

*Mr. Anas Qureshi* *Asst. Dir. of* *IT*  
*SI* *IT* *IT*

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14	The image appearance in tutorials/ practical s a particular random and not sequential. Images of the defined difficulty shall appear in the random manner for evaluation or interpretation. If a screener fails to indentify or interpret a particular random image of threat object it should reappear for interpretation in the midst of subsequently appearing images. The screener should also not get the same images if he/practices/appears for the tests on the software for certain number of times.
15	The tutorial and test design in the system should also contain a module on work related questionnaire. The test system should have an option of objective type of question-answer pattern and should be fully on online/computer based. It should also contain test module on the theoretical knowledge part of the training.
16	The system should support image analysis on dual view basis i.e. image gallery must have images captured in at least two view points from the screener point of view.
17	The system should evaluate the student according to the correct location of the position of threat objects, correct naming and total time taken for identification.
18	The system should have provision to programme the time limit by the administrator for detection of threat objects.
19	The system (both theory and simulator) should have multilingual contents i.e. in Hindi & English.
20	The system should have the training module enabling data collection and analysis of student results to make decision on the following points:- a) Requirement of further training in various categories of threat objects, establishing norms, per bag. b) X-Ray BIS image interpretation skills. c) Processing time and operational speed. d) Establishing performance standards.
21	The system should have the feature of projection of theory and simulator sessions through a LCD/Multimedia projector in a class room.
22	Instructor should be able to insert and withdraw images from the image library as and when desired (including during conducting test).
23	Instructor should be able to alter the classification of any item in the database and to choose the expected action required by the student.
24	The system should allow the trainer to build the lessons in a progressively difficult manner.
25	System should not allow any unauthorized tampering by incorporating access level restrictions.

Mr. Arvind Kumar Shri Ray Shri Shri

S.N	Parameter
26	The system should automatically conduct the training and assessment and keep a separate record of each student. These records should be retrievable.
27	The system should be able to generate reports in various analytical forms, course wise, session wise, bag wise, group wise, and threat recognition wise etc.
<b>IMAGE GALLERY :</b>	
28	The system should provide images of threat and non-threat objects. The image gallery shall have threat images of all possible dimension of cabin baggage.
29	Images of Guns/Fire Arms made of organic materials and IEDs of various types and shapes should be available in various shapes, sizes and orientation.
30	The image should be in very high resolution. The image produced by the software should be as real as it is produced on monitor of real X-BIS during operations at Security Hold Area (SHA). High resolution images shall not have the effects of pixel stress i.e. image gets blurry, grainy or pixilated when zoomed etc. The image gallery shall contain real X-rayed images of baggages. Their reproduction on the monitor should be as natural as that are in real situations.
31	The image gallery shall support storage and call back facility of images up to 03 year old. It shall also have a facility by which some classic/exemplary images can be booked marked and retrieved hassle free subsequently. The System should have the facility of uploading the images by the instructors.
32	The system should be able to simulate all the features like zoom, magnification, image enhancement features, black & white view, pseudo colour, organic & inorganic material discrimination and all other aspects of X-Ray screening procedure.
33	The system should allow viewing of images from different angles.
34	The images should be both colored and black & white.
35	The images should include items like bombs, I.E.Ds ,knives, blades, scissors, explosives (organic, inorganic), ammunitions, detonators, torch lighters, lighters and image of all restricted items enumerated in BCAS AvSec order 05/2005 and such other items prescribed as prohibited for carry on (cabin) baggage under Indian regulations time to time.
36	The images should be of actually scanned bags. There should also be provision for reassembling of images which the instructor can reassemble for different categories of images and not from images of individually scanned items assembled to merely re-assemble a real bag.

Mr. Anil Kumar Singh  
 Sr. Asst. Insp.

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 Sr. Asst. Insp.

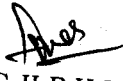
Mr. Anil Kumar Singh  
 Sr. Asst. Insp.

S.N	Parameter
37	The system should separately incorporate the feature of Threat Image Projection (TIP) for training of students on this aspect also.
38	The system should display X-Ray images at the same resolution as that of an X-Ray machine used in India or at airports in other countries.
<b>OTHER FEATURES :</b>	
39	The system should have been certified by accredited aviation Security agency of the country of origin of the equipment.
40	The firm should give the evidence of executing similar projects with International Aviation Security clients of high repute.
41	Installation & 5 year maintenance of the entire system should be provided free of cost.
42	No license fee for the software should be required to be paid by the purchaser for the entire warranty period of five years.
43	On installation, free of cost training should be provided by the supplier to 10 Instructors per location for a period of 5 working days of 8 hours duration each.
44	The system and software updates and upgrades should be provided free of cost as and when they are available either with supplier or Original Equipment Manufacturer (OEM).
45	Training on XBIS Simulator should essentially cover operations, maintenance, node/client service/equipment management & maintenance, Server Operating System (OS) management & maintenance in respect of management & running of XBIS Simulator Client-server configuration and finally system resources management.
46	<p>The software should be able to upload real images from the X-BIS operational in the Security Hold Area (SHA) and can superimpose the threat images on them for training, so that the screener can be trained on images of bags being carried out by passengers and may not rely solely on images available in the software.</p> <p>The supplier will update the image library on quarterly basis for a period of 5 (five) years. The images shall be arranged by the supplier from Indian and Foreign airport facilities with X-BIS operation. Minimum 500 images of different threat objects and shall be updated once in every 6 (six) months every year.</p> <p>If possible, an additional library of images may be arranged by the supplier for provision of keeping extra images of different threat baggage.</p>


A collection of handwritten signatures and initials in black ink, including 'Mn', 'A. Q.', 'S. K.', 'L. S.', and 'S. K.', along with a large arrow pointing downwards.





S.N	Parameter
47	The system &/or its individual components and/or features shall be scalable, machine independent and should come with forward or backward seamless integration facility.
48	The software should not be programmed to shutdown automatically if the purchaser desired not to renew the license of the software or AMC for the hardware with the suppliers.

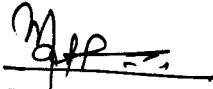
  
AC-II P.K.Mehta  
NSG

  
INSP. B.C.Roy Choudhary,  
BSF


  
SB M.K.Singh  
Assam Rifles

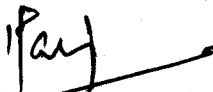
  
S. P. Punia, AC  
ITBP


  
S.S.Sikarwar, DC  
CISF

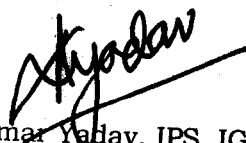
  
P.R.Jha,DC(Comn)  
CRPF


  
Rajnish Kumar,PSO(E)  
BPR&D

  
AjayKumar, AIG,  
Airport Sector, CISF

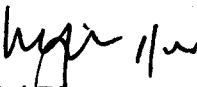
  
Harjinder Singh, DIG(Eqpt)  
CRPF

  
D.S.Rawat, DIG(Comn)  
CRPF

  
Ajay Kumar Yadav, IPS, IGP(Comn &IT)  
CRPF

  
Md. Javed Akhtar, IPS, ADG (Comn)  
CRPE

Approved/Not Approved

  
Rajeev Rai Bhatnagar, IPS  
DG, CRPF

Trial Directive of X-BIS Simulators System.

S.N	Parameter	Trial Directives
1	It should be computer based programme specially designed for the training of civil aviation security personnel. The programme should be focused on making the security personnel efficient to detect and identify the threat objects at the checkpoints. The system should simulate similar environment as if security personnel are checking the baggage with the help of a X-Ray machine.	Board will check practically.
2	The system should consist of 2 parts- Theory and simulator. It should have a comprehensive and interactive training package for training, testing and recording the performance of the screeners. It should have provision for Basic Training, Recurrent Training, Certification Test, Performance Test and item library of at least 5000 images of a right mix of threat bags, suspicious bags and clear bags. These images should form a part of the package.	Board will check practically.
3	The system should have the capability to be installed on single standalone workstation, a classroom over a dedicated local area network (LAN), over a wide area network (WAN) and at any remote work station through internet. The system should provide all the users (trainee, trainer and administrator) their own unique and secure logons. The system should be able to support a class of minimum 25 screeners and one instructor and should be upgradable for up to 250 screeners in future. The up-gradation of up to 250 workstations can be either in the existing location or at remote locations connected through LAN/WAN/Internet.	Board will check practically.

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S.N	Parameter		Trial Directives
4	<b>The system should be provided with all the hardware components required for the purpose with following broad specifications. Client Node/Workstation:</b>		
a	CPU	Latest generation Intel Core i3/ equivalent or higher from same or other Chipmaker/OEM	Board will check practically & also firm will submit OEM certificate.
b	Graphics & Chip Set	Integrated/Dedicated Graphics card with at least 2 GB RAM on Compatible OEM Mother board.	
c	RAM Memory	4 GB, DDR4, 2400 MHz or higher. Expandable up to 16 GB.	
d	Hard Disk Drive	Minimum 1 TB 7200 rpm SATA HDD or higher	
e	Monitor	22" HFD Antiglare monitor or higher.	
f	Keyboard	104 keys	
g	Mouse	Optical	
h	Ports	6 USB (2.0 or above) Port (With at least 2 in front), 2 ports for microphone and head phone respectively in front. One or more HDMI port supporting latest version of connectivity.	
i	Head Phones	Covering the ear but not of ear plug type.	
j	Cabinet	Mini Tower	
k	Networking facility	802.11 a/b/c/n/ac Wireless networking capability alongside 10/100/1000 on board integrated network port with remote booting facility, remote system installation, remote wake up.	
l	Operating system	Latest iteration of Windows Operating System (OS) or equivalent from other OEMs with all the latest system & security updates.	
m	Power management	Screen Blanking, Hard Disk and system Idle Mode in Power On, Set up Pass word, power supply SMPS surge protected.	
n	Preloaded software	Latest iteration of desktop antivirus with 360 deg protection.	
o	Support	For 5 years for up-gradation of technology	

S.N	Parameter		Trial Directives
p	Printer	Laser printer-color, Paper size-A4, DPI- 600x600, speed-20 ppm BW, C-Port, 1 USB Memory 16 MB, Network card 10/100, duplex. Wi-Fi Connectivity	
q	UPS	Online UPS, 2 X 3.0 KVA, Single phase AC, Input and single phase AC output with back up time of 120 minutes.	
5	<b>Specification of Server :</b>		Board will check practically & also firm will submit OEM certificate.
i.	Housing types	Rack/Tower	
ii.	Processor type	Intel® Xeon ® Silver processor base 2.2 GHz (Scalable type) equivalent or higher from other OEM with RAM 10 GB DDR4 or higher, expandable upto 64 GB.	
iii.	Chip Set	Intel® C624 equivalent or higher from other OEM	
iv.	Processor Quantity	2 Nos	
v.	Processor core available	10 or more core per processor	
vi.	Processor cache	38.50 MB L3 8.25 MB L3, depending on model SKU	
vii.	Processor Speed	3.6 GHz, maximum depending on processor SKU	
viii.	Slots	4 PCI/PCI Express	
ix.	Memory	1.0 TB DDR4 DIMM	
x.	Memory Expendable upto	3.0 TB	
xi	Memory slot	24 DIMM slots (12 DIMMs pre CPU)	
xii	RAID Controller supported	0/1/5/10	
xiii	SATA Controller	1Xsata Channel for ODD	
xiv	Monitor	22" or higher FHD Antiglare monitor.	
xv	Drive Bays	4 Bays (Minimum 2 internal)	

S.N	Parameter		Trial Directives
xvi	Storage Drive Bays	3.5 inch or 2.5 inch hot-plug SAS/SATA	Board will check practically & also firm will submit OEM certificate.
xvii	Accessible drive Bays	1x5.25/0.4-inch for RW/ DVD	
xviii	Ports	6 USB (2.0 or above) port	
xix	LAN Controller	4x1Gbit/s Ethernet (Rj45) 2 x 10 Gbit/s SFP+	
xx	Operating system	Should support Window 2010/2012/2016 or latest; or Linux	
xxi	Power	Hot -plug Dual power.	
xxii	Anti Virus	Latest iteration of Server antivirus with 360 deg protection.	
xxiii	Virtualization	VM Ware or any other equivalent virtualization system/software/facility on board	
xxiv	Support	5 Years for Technical Up-gradation	
xxv	The above mentioned configurations of the server & its client nodes/workstations are minimum standards. These are not exhaustively listed and other configuration details of client node and server system will be standard or higher so as to efficiently support each and every individual nod independently with the client module as host and an independent server module with the XBIS Simulator system with concurrent service to sharing of resources with minimum of 25 to maximum of 250 client nodes.		

**Training requirement :**

6	The system should be designed to train the security personnel on all such make/model of X-Ray machines in use at Indian airports and at foreign countries as well. It shall be machine independent and support forward and backward compatibility.	Firm will submit OEM certificate.
7	As per BCAS Circular 11/2017 all future procurements of X-BIS machine should have dual view image system. Thus, computer based programme should also have dual view image system as its feature.	Board will check practically.

S.N	Parameter	Trial Directives
8	The software should provide tailored training programme as applied to TIP (Threat Image projection) in the X-BIS. In this, the software automatically detects the weak areas (Detection of prohibited items) of a trainee and enhances the number of such threats automatically so that more practice can be given to a trainee in area of weakness.	Board will check practically.
9	The system should have the feature of ongoing training i.e. the trainee should be able to resume his class where he was last at.	Board will check practically.
10	The system should have the ongoing certification process to check the ability level of the screener to identify threat images. It should have multi-level class structure with gradual increase in difficulty and complexity levels i.e. Beginner, Intermediate, Advanced and Expert kind of tutorials and practicals.	Board will check practically.
11	The system should be able to educate the screener from 0 % level to an approved level within 40 teaching hours. It should also have the flexibility for meeting the training requirement of various categories of screeners based on their competence level i.e. from novice to expert.	Board will check practically.
12	It should have various tests designed to test the level of trainees at the start and end of the course. It should also have progress charts right from the beginning to the end for evaluation of the expertise achieved by the trainee during the course.	Board will check practically.
13	If the trainee fails to identify/ interpret a threat object image in a bag in a particular class level he/she shall not be auto promoted to the next level. He/She shall be subject to interpretation of that type of images multiple times and until and unless he successfully interprets image in his/her all subsequent attempts he/she shall remain in that class or level.	Board will check practically.
14	The image appearance in tutorials/ practical s a particular random and not sequential. Images of the defined difficulty shall appear in the random manner for evaluation or interpretation. If a screener fails to indentify or interpret a particular random image of threat object it should reappear for interpretation in the midst of subsequently appearing images. The screener should also not get the same images if he/practices/appears for the tests on the software for certain number of times.	Board will check practically.

Mr. Anas Qasbi  
 Mr. May  
 Mr. Rey  
 Mr. SRS

S.N	Parameter	Trial Directives
15	The tutorial and test design in the system should also contain a module on work related questionnaire. The test system should have an option of objective type of question-answer pattern and should be fully on online/computer based. It should also contain test module on the theoretical knowledge part of the training.	Board will check practically.
16	The system should support image analysis on dual view basis i.e. image gallery must have images captured in at least two view points from the screener point of view.	Board will check practically.
17	The system should evaluate the student according to the correct location of the position of threat objects, correct naming and total time taken for identification.	Board will check practically.
18	The system should have provision to programme the time limit by the administrator for detection of threat objects.	Board will check practically.
19	The system (both theory and simulator) should have multilingual contents i.e. in Hindi & English.	Board will check practically.
20	The system should have the training module enabling data collection and analysis of student results to make decision on the following points:- a) Requirement of further training in various categories of threat objects, establishing norms, per bag. b) X-Ray BIS image interpretation skills. c) Processing time and operational speed. d) Establishing performance standards.	Board will check practically.
21	The system should have the feature of projection of theory and simulator sessions through a LCD/Multimedia projector in a class room.	Board will check practically.
22	Instructor should be able to insert and withdraw images from the image library as and when desired (including during conducting test).	Board will check practically.
23	Instructor should be able to alter the classification of any item in the database and to choose the expected action required by the student.	Board will check practically.

S.N	Parameter	Trial Directives
24	The system should allow the trainer to build the lessons in a progressively difficult manner.	Board will check practically.
25	System should not allow any unauthorized tampering by incorporating access level restrictions.	Board will check practically.
26	The system should automatically conduct the training and assessment and keep a separate record of each student. These records should be retrievable.	Board will check practically.
27	The system should be able to generate reports in various analytical forms, course wise, session wise, bag wise, group wise, and threat recognition wise etc.	Board will check practically.
<b>IMAGE GALLERY :</b>		
28	The system should provide images of threat and non-threat objects. The image gallery shall have threat images of all possible dimension of cabin baggage.	Board will check practically.
29	Images of Guns/Fire Arms made of organic materials and IEDs of various types and shapes should be available in various shapes, sizes and orientation.	Board will check practically.
30	The image should be in very high resolution. The image produced by the software should be as real as it is produced on monitor of real X-BIS during operations at Security Hold Area (SHA). High resolution images shall not have the effects of pixel stress i.e. image gets blurry, grainy or pixilated when zoomed etc. The image gallery shall contain real X-rayed images of baggage. Their reproduction on the monitor should be as natural as that are in real situations.	Board will check practically as per the corresponding BCAS circular 11/2017.
31	The image gallery shall support storage and call back facility of images up to 03 year old. It shall also have a facility by which some classic/exemplary images can be booked marked and retrieved hassle free subsequently. The System should have the facility of uploading the images by the instructors.	Firm will submit OEM Certificate.
32	The system should be able to simulate all the features like zoom, magnification, image enhancement features, black & white view, pseudo colour, organic & inorganic material discrimination and all other aspects of X-Ray screening procedure.	Board will check practically as per the corresponding BCAS circular 11/2017

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S.N	Parameter	Trial Directives
33	The system should allow viewing of images from different angles.	Board will check practically.
34	The images should be both colored and black & white.	Board will check practically.
35	The images should include items like bombs, I.E.Ds ,knives, blades, scissors, explosives (organic, inorganic), ammunitions, detonators, torch lighters, lighters and image of all restricted items enumerated in BCAS AvSec order 05/2005 and such other items prescribed as prohibited for carry on (cabin) baggage under Indian regulations time to time.	Board will check practically.
36	The images should be of actually scanned bags. There should also be provision for reassembling of images which the instructor can reassemble for different categories of images and not from images of individually scanned items assembled to merely re-assemble a real bag.	Board will check practically.
37	The system should separately incorporate the feature of Threat Image Projection (TIP) for training of students on this aspect also.	Board will check practically.
38	The system should display X-Ray images at the same resolution as that of an X-Ray machine used in India or at airports in other countries.	Board will check practically.
<b>OTHER FEATURES :</b>		
39	The system should have been certified by accredited aviation Security agency of the country of origin of the equipment.	Firm will submit OEM Certificate.
40	The firm should give the evidence of executing similar projects with International Aviation Security clients of high repute.	Firm will submit OEM Certificate.
41	Installation & 5 year maintenance of the entire system should be provided free of cost.	Firm will submit OEM Certificate.
42	No license fee for the software should be required to be paid by the purchaser for the entire warranty period of five years.	Firm will submit OEM Certificate.

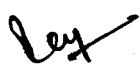
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S.N	Parameter	Trial Directives
43	On installation, free of cost training should be provided by the supplier to 10 Instructors per location for a period of 5 working days of 8 hours duration each.	Firm will submit OEM Certificate.
44	The system and software updates and upgrades should be provided free of cost as and when they are available either with supplier or Original Equipment Manufacturer (OEM).	Firm will submit OEM Certificate.
45	Training on XBIS Simulator should essentially cover operations, maintenance, node/client service/equipment management & maintenance, Server Operating System (OS) management & maintenance in respect of management & running of XBIS Simulator Client-server configuration and finally system resources management.	Firm will submit OEM Certificate.
46	<p>The software should be able to upload real images from the X-BIS operational in the Security Hold Area (SHA) and can superimpose the threat images on them for training, so that the screener can be trained on images of bags being carried out by passengers and may not rely solely on images available in the software.</p> <p>The supplier will update the image library on quarterly basis for a period of 5 (five) years. The images shall be arranged by the supplier from Indian and Foreign airport facilities with X-BIS operation. Minimum 500 images of different threat objects and shall be updated once in every 6 (six) months every year.</p> <p>If possible, an additional library of images may be arranged by the supplier for provision of keeping extra images of different threat baggage.</p>	Board will check practically.


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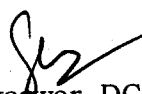
S.N	Parameter	Trial Directives
47	The system &/or its individual components and/or features shall be scalable, machine independent and should come with forward or backward seamless integration facility.	Firm will submit OEM Certificate.
48	The software should not be programmed to shutdown automatically if the purchaser desired not to renew the license of the software or AMC for the hardware with the suppliers.	Firm will submit OEM Certificate.

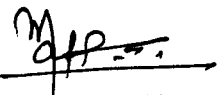
  
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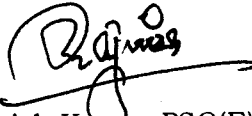
  
INSP. B.C.Roy Choudhary,  
BSF


  
SB M.K.Singh  
Assam Rifles

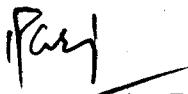
  
S. P. Punia, AC  
ITBP


  
S.S.Sikarwar, DC  
CISF

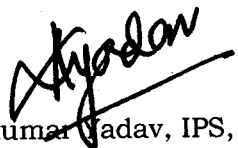
  
P.R.Jha,DC(Comn)  
CRPF

  
Rajnish Kumar,PSO(E)  
BPR&D

  
AjayKumar, AIG,  
Airport Sector, CISF

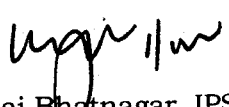
  
Harjinder Singh, DIG(Eqpt)  
CRPF

  
D.S.Rawat, DIG(Comn)  
CRPF

  
Ajay Kumar Yadav, IPS, IGP(Comn &IT)  
CRPF

  
Md. Javed Akhtar, IPS, ADG (Comn)  
CRPF

Approved/Not Approved

  
Rajeev Rai Bhatnagar, IPS  
DG, CRPF