

केन्द्रीय औद्योगिक सुरक्षा बल
CENTRAL INDUSTRIAL SECURITY FORCE
(गृह मंत्रालय)
(MINISTRY OF HOME AFFAIRS)

Sub:- Forwarding of Final/Approved QRs and TDs of Full Body Scanner (FBS).

It is intimated that MHA, PM Division (Prov. III Desk) has conveyed the approval of the competent authority for authorization cum provisioning sanction vide letter No. W.42022/34/CISF/Tech/PHC(57364)/2024-MHA/Prov.III/CFN:3705809/445 dated 05.08.2024 for procurement of 09 Nos. Full Body Scanner for security of Parliament House Complex (PHC).


2. Further, it is intimated that as per the Minutes of the Meeting held under the chairmanship of Union Home Secretary on 12.11.2024 (to discuss the issue raised by Bureau of Civil Aviation Security (BCAS) regarding the need to adopt indigenous Full Body Scanner (FBS) standards) forwarded by MHA/PM Division (Prov.I Section) vide letter No. F. No. IV-24011/49/2024/Prov-I/3720113-716 dated 25.11.2024, (SN 19(v)), "CISF will be the nodal agency for Full Body and Cargo Scanner and LPAI will be the nodal agency for FBTS".

3. Since, QRs and TDs of Full Body Scanner were not available, a BOO had been constituted under the Chairmanship of SDG/APS, CISF including members from CISF and other CAPFs for formulation of QRs and TDs of FBS.

4. As per MHA's letter dated 25.11.2024, DG CISF is the competent authority to approve the QRs & TDs of Full Body Scanner.

5. Now, the QRs and TDs of Full Body Scanner prepared by the sub group of Technical Experts and approved by the DG CISF are forwarded with a request to upload the same in MHA's website and circulate to all CAPFs, please.

Encl: Approved QRs and TDs of FBS.


(ऐ सथिल राजन)
सहायक महानिरीक्षक/तक0
केऔसुब मुख्यालय नई दिल्ली

The Senior Technical Director, NIC, North Block, MHA, New Delhi (email – mpsugandhi@nic.in)







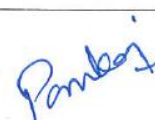
U.O.No. W-42026/CISF/Tech/QRs-TDs/FBS/2024 | 388

Dated: 16 / 06 / 2025









Copy to:

1. The SO/IT, NIC, North Block, MHA, New Delhi (email – soit@nic.in) – Approved QRs and TDs of Full Body Scanner are forwarded herewith for information and necessary action, please.


S No	PROPOSED QRs FOR FULL BODY SCANNER
1)	<p><u>Functional requirement</u></p> <p>a) Full Body Scanner system (FBS) will consist of body scanner & required accessories.</p> <p>b) The FBS should be capable of detecting both metallic/ Non-metallic threat objects. (Weapon, explosive, drug, liquid etc. concealed over the body of a person when passed through FBS). The list along with desired weights / dimensions of prohibited items will be provided by the user agency.</p> <p>c) Should be working on Millimeter Wave (MMW)/Centimeter Wave Non-ionizing Electromagnetic Radiation.</p> <p>d) It shall use Millimeter Wave (MMW). /Centimeter wave technology to scan passengers/individuals and actively scan the subject within the scanning area between the panels.</p> <p>e) Should be able to detect multiple items of various size, shape and type hidden under the clothes over the skin as per the specifications of detection capability.</p> <p>f) The scan should be completed in a single sweep, not warranting change of the posture.</p> <p>g) FBS should ensure the system functions as per defined detection capability, and if required there shall be provision of:</p> <p>i) Auto calibration and/or periodic calibration.</p> <p>ii) Improvement in algorithm by the OEM.</p>
2)	<p><u>Technology</u></p> <p>a) The FBS should work in conjunction with DFMD.</p> <p>b) The detection data with zone information from the DFMD will be transmitted and integrated to the FBS data, facilitating a single digital display of alarms from both systems, on the FBS display.</p> <p>c) The OEM of the FBS shall be responsible for supplying an integrated system comprising of FBS & DFMDs. The QRs and TDs of DFMD will remain the same as approved by MHA</p> <p>d) The integrated system should have the capability of machine generated alarm and detection reports for combined system as well as for the individual systems.</p>
3)	<p><u>Technical requirement</u></p> <p>a) Operating Frequency Range: Less than 100 GHz</p> <p>b) RF Power Density (Peak) at 1-meter distance, in front of the panel: - Up to 3000nW/square cm.</p> <p>c) Through Put – Minimum 180 pax/hr.</p> <p>d) Scan and processed result time shall be less than 8 seconds.</p> <p>e) Detection Capability: - Should be able to detect all the prohibited items listed by the regulator/ user agency subject to the quantity/dimensions of the restricted item specified for detection.</p>

	f) Dimensions of FBS	i. ii. iii.	Height- 2.0 to 2.75 Meters Width - 1.2 to 1.8 Meters Depth: - 1.4 to 2.6 Meters
	For Human Security Scanner (Walkthrough)	i. ii. iii.	Height- 2.0 to 2.75 Meters Width – 1.0 to 1.6 Meters Depth – 0.5 to 1 Meters
	g) Electrical Power (Voltage fluctuations)		180 to 280 Volts with frequency 50 Hz _+5%. A UPS is recommended along with system wherever there in no UPS on site.
	h) Average Power Consumption:		Up to 4 KVA (Supported with UPS) or requirement as specified by the user.
	i) Operating Temperature		Minimum Operation Temp Range 0°C to + 40°C.
	j) Humidity		up to: 90 % non- condensing.
	k) Image Display:		Touch Screen/ Workstation, capable of forwarding the display of alarms to screens at the frisking point.
	l) Scanned Image Storage:		Minimum for 48 hours.
4)	<u>Radiation Safety</u> There shall be no ionizing radiation emitted by the FBS. Each site shall be provided with a dosimeter by the OEM to check any ionizing radiation emitted by the systems. Before installation of the machine, the supply/ manufacturer should furnish relevant certificate from concerned agency regarding non ionizing radiation safety i.e RF Power Density (Peak) at 1-meter distance, in front of the panel: - Up to 3000nW/square cm is not breached. The company manufacturing the equipment should have valid certification/license for manufacturing and service of FBS Machine.		
5)	<u>System diagnosis</u> The system should have software-controlled diagnosis report facility.		
6)	<u>Security</u> a) All software feature of machine should be cyber secure and password protected. b) Data security: The data generated shall not be extracted without the explicit and specific consent of the authorized official of the user agency.		
7)	<u>Operator control requirement</u> a) Scanned results PASS or object detected, shall be displayed on an operator panel/workstation located away from scanner. b) The operator shall be able to forward/transmit the alarm/detection to the screen at the frisking points. c) Results shall be based on a generic mannequin figure or human avatar, highlighting single or multiple areas of concern. The actual image of the body shall not be displayed.		
8)	<u>Training</u> a) OEM shall offer training module in English with details including operation, maintenance and troubleshooting. All technical information & documents shall be in English language.		

	b) Training to operating staff and trainers shall be imparted for smooth operation of FBS.
9)	Operating & service manual shall be provided with each machine.
10)	<u>False alarm</u> Percentage shall be maintained within a range of 5% to 10%.
11)	<u>Safety</u> a) Compliance to emission conformity & electrical safety: Model specific valid certificate from National/International accreditation laboratories to be provided by the OEM. b) RF signal strength used for scanning shall be safe for human body including those with pacemaker, medical implants and pregnant women. Model specific valid certificate from national/international accreditation laboratories, to this effect to be provided by the OEM.
12)	<u>Certification</u> a) FBS shall have approval/certification from TSA or ECAC or any other specified govt. agency in India or accredited testing agency as prescribed by the user agency/regulator or, otherwise, upon satisfaction of the user agency based on successful trials. However, it is mandatory to avail certificate once an accredited national testing agency is established within 6 months.
13)	<u>Product support & warranty</u> a) OEMs should have a system in place for product support via standard warranty, extended warranty and AMCs. b) The company providing the FBS should have the capacity to provide spare parts, repair and maintenance, support for both, hardware and software, for a minimum service life of 7 years for the equipment. c) Software/technological upgradation shall be provided by the OEM regularly.



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(Jose Mohan, IPS)
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(Member-I)


(Praveer Ranjan, IPS)
Special Director General/ APS
Chairman of the Board

Approved/Not Approved


DG, CISF

TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)

SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
1.	Full Body Scanner system (FBS) will consist of body scanner & required accessories.	To be physically checked by the BOO.	As per the QR.
2.	The FBS should be capable of detecting both metallic/ Non-metallic threat objects. (Weapon, explosive, drug, liquid etc. concealed over the body of a person when passed through FBS). The list along with desired weights / dimensions of prohibited items will be provided by the user agency.	To be physically checked by the BOO by passing metallic / non-metallic objects concealed in the body/ clothing of a person.	The equipment should be able to detect the objects accordingly.
3.	Should be working on Millimetre Wave (MMW)/Centimetre Wave Non-ionizing Electromagnetic Radiation	Certificate should be obtained and produced by the OEM from national accredited lab or from TSA/ ECAC confirming the QR for the same. In case of doubt the veracity of the certificate may be verified from the concerned lab/agency.	BOO should physically check the certificate and verify.
4.	It shall use Millimetre Wave (MMW) technology/Centimetre Technology to scan passengers/individuals and actively scan the subject within the scanning area between the panels.	To be checked by the BOO.	As per requirement mentioned in the QRs
5.	Should be able to detect multiple items of various size, shape and type hidden under the clothes over the skin as per the specifications of detection capability.	To be physically checked by the BOO depending on the requirement of size, shape and type to be detected by passing objects of various sizes & shapes hidden under the clothes over the skin by a person. Object size, shape and type to be	The equipment should be able to detect the objects as per the QR.













TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)

SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
		specified by the buyer department at the time of tender.	
6.	The scan should be completed in a single sweep, not warranting change of the posture.	To be physically checked by the BOO.	As per the QR.
7.	FBS should ensure the system functions as per defined detection capability, and if required there shall be provision of: (i) Auto calibration and/or periodic calibration. (ii) Improvement in algorithm by the OEM.	To be physically checked by the BOO and an OEM certificate to be obtained.	As per the QR.
8.	The FBS should work in conjunction with DFMD.	To be physically checked by the BOO.	As per the QR.
9.	The detection data with zone information from the DFMD will be transmitted and integrated to the FBS data, facilitating a single digital display of alarms from both systems, on the FBS display.	To be physically checked by the BOO and an OEM certificate to be obtained.	As per the QR.
10.	The OEM of the FBS shall be responsible for supplying an integrated system comprising of FBS & DFMDs. The QRs and TDs of DFMD will remain the same as approved by MHA.	To be physically checked by the BOO and a written agreement to be obtained from the OEM.	As per the QR.
11.	The integrated system should have the capability of machine-generated alarm and detection reports for combined system as well as for the individual systems.	BOO to physically verify individual machines and then verify the integrated system.	Both individual and combined results to be checked.
12.	Operating Frequency Range: - Less than 100 GHz	Requisite certificate to be obtained from the OEM.	As per the QR.
13.	RF Power Density (Peak) at 1-meter distance, in front of the panel: - Up to 3000nW/square cm.	Requisite certificate to be obtained from the OEM.	As per the QR.







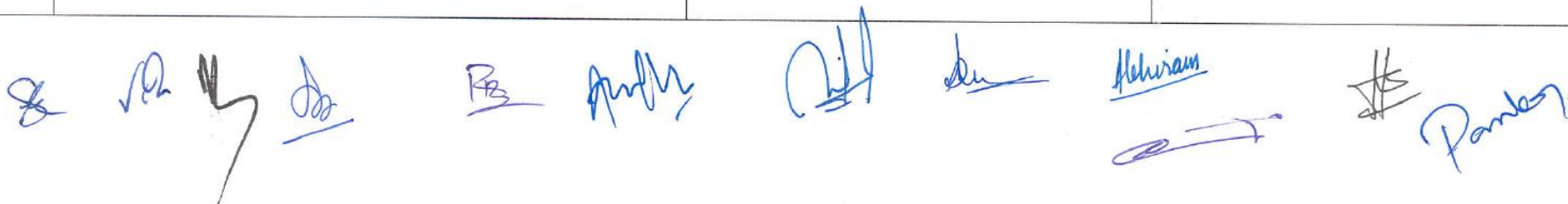






TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)

SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
14.	Through Put – Minimum 180 pax/hr.	To be physically checked by the BOO	As per the QR.
15.	Scan and processed result time less than 8 seconds.	To be physically checked by the BOO	As per the QR.
16.	Detection Capability: - Should be able to detect all the prohibited items listed by the regulator /user agency subject to the quantity/dimensions of the restricted item specified for detection.	To be physically checked by the BOO by passing objects/prohibited items hidden under the clothes over the skin by a person. The dimension/size/weight of the restricted items to be detected shall be specified by the user agency.	As per the QR.
17.	Dimension of FBS Height- 2.0 to 2.75 Meters Width - 1.2 to 1.8 Meters Depth: - 1.4 to 2.6 Meters	To be physically checked by the BOO by measuring instrument.	As per the QR.
	For Human Security Scanner (Walkthrough) Height- 2.0 to 2.75 Meters Width – 1.0 to 1.6 Meters Depth: - 0.5 to 1 Meters		
18.	Electrical Power Requirement: - 180 to 280 Volts with frequency 50 Hz $\pm 5\%$	Plug the machine through electrical component and check the operation of the machine within the specified range of power supply. Applying varying inputs of AC mains supply from 180 to 280 Volt to the equipment and check the performance of FBS or to obtain a valid testing certificate stating the same.	As per requirement mentioned in the QR.
19.	Average Power Consumption: - Up to 4 KVA (Supported with UPS) or requirement as specified by the user.	To be physically checked by the BOO and/ or a certificate to be produced by OEM.	As per requirement mentioned in the QR.



TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)

SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
20.	Operating Temperature Minimum Operation Temp Range 0°C to + 40°C.	Certificate from approved national/international testing agency or govt. agency in India /NABL accredited lab confirming the QR for the same shall be provided by the OEM. In case of doubt, the veracity of the certificate may be verified from the concerned lab. The user agency may also conduct testing at temperature extremes in case of doubt.	National / International accredited lab certificate provided by OEM must confirm the same.
21.	Humidity up to - 90 % non- condensing.	Certificate from approved national/international testing agency or govt. agency in India /NABL accredited lab confirming the QR for the same shall be provided by the OEM. In case of doubt, the veracity of the certificate may be verified from the concerned lab.	As per requirement mentioned in the QR.
22.	Image Display: - Touch Screen/ Workstation, capable of forwarding the display of alarms to screens at the frisking point. The number of display screens will be decided depending upon the number of frisking points (Maximum-1+3)	To be physically checked by the BOO.	The system should work efficiently.
23.	Image Storage: - Minimum for 48 hours.	To be physically checked by the BOO.	As per requirement mentioned in the QR.
24.	There shall be no ionizing radiation emitted by the FBS. Each site shall be provided with a dosimeter by the OEM to check any ionizing radiation emitted by the systems. Before installation of the machine, the supply/	The radiation dosage can be verified by dosimeter provided on site. Certificate to be physically checked by the BOO.	As per the QR.














TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)

SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
	manufacturer should furnish relevant certificate from concerned agency regarding non ionizing radiation safety i.e RF Power Density (Peak) at 1-meter distance, in front of the panel: - Up to 3000nW/square cm is not breached. The company manufacturing the equipment should have valid certification/license for manufacturing and service of FBS Machine.	If certificate of concerned agency does not exist, OEM to furnish Certificate and Undertaking in this regard.	
25.	The system should have software-controlled diagnosis report facility.	To be physically checked by the BOO/certificate to be obtained from OEM verified.	As per requirement mentioned in the QRs.
26.	All software features of machine should be cyber secure and password protected.	To be physically verified by the BOO/certificate to be obtained from OEM verified.	As per requirement mentioned in the QRs
27.	Data security: The data generated shall not be extracted without the explicit and specific consent of the authorized official of the user agency.	To be physically verified by the BOO/certificate to be obtained from OEM verified.	As per requirement mentioned in the QRs
28.	Scanned results PASS or object detected, shall be displayed on an operator panel/workstation located away from scanner. The operator shall be able to forward/transmit the alarm/detection to the screen at the frisking points. Results shall be based on a generic mannequin figure or human avatar, highlighting single or multiple areas of concern. The actual image of the body shall not be displayed.	To be physically checked by the BOO.	As per requirement mentioned in the QRs.
29.	OEM shall offer training module in English with details including operation, maintenance and troubleshooting.	To be physically checked by the BOO	As per requirement mentioned in the QRs.













TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)


SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
	All technical information & documents shall be in English language.		
30.	Training to operating staff and trainers shall be imparted for smooth operation of FBS.	Written agreement to be obtained from the OEM.	As per requirement mentioned in the QRs.
31.	Operating & service Manual shall be provided with each machine.	To be physically checked by the BOO	As per requirement mentioned in the QRs.
32.	False alarm percentage shall be maintained within a range of 5% to 10%.	To be physically checked by the BOO with a considerable sample size.	As per requirement mentioned in the QRs.
33.	Compliance to Emission conformity and Electrical safety.	Model specific valid certificate from National/ International testing agency or govt. agency in India to this effect to be provided by the OEM.	As per requirement mentioned in the QRs.
34.	RF signal strength used for scanning shall be safe for human body including those with pacemaker, medical implants and pregnant women.	Certificate to be obtained from the OEM.	As per requirement mentioned in the QRs.
35.	FBS shall have approval/certification from TSA or ECAC or any other specified govt. agency in India or accredited testing agency as prescribed by the user agency/regulator or, otherwise, upon satisfaction of the user agency based on successful trials. However, it is mandatory to avail certificate once an accredited national testing agency is established within 6 months.	Certificate to be physically checked by the BOO. Trials to be conducted by BOO to check efficacy of the overall system.	As per the requirement.
36.	OEMs should have a system in place for product support via standard warranty, extended warranty and AMCs.	Written agreement to be obtained from the OEM.	As per the QR.
37.	The company providing the FBS should have the capacity to provide spare parts, repair and maintenance, support for both, hardware and software, for 7 years which is the minimum service life of the equipment.	Written agreement to be obtained from the OEM.	As per the QR.

TRIAL DIRECTIVES OF FBS (FULL BODY SCANNER)


SN	Proposed QRs Specification	Procedure suggested for Trial for BOO.	Result expected / Desired
38.	Software/technological upgradation shall be provided by the OEM regularly.	Written agreement to be obtained from the OEM.	As per the QR.



(Sandip Kumar (WO)
Assam Rifles, New Delhi

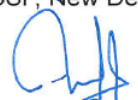

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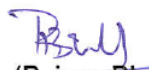

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(Member-I)


(Praveer Ranjan, IPS)
Special Director General/ APS
Chairman of the Board

Approved / ~~Not Approved~~


IG, CISF