

मुख्यालय राष्ट्रीय सुरक्षा गारद
गृह मंत्रालय (भारत सरकार)
सम्भरण शाखा (आयुद्ध अनुभाग)
मेहरम नगर, पालम, नई दिल्ली-37

संख्या-पी/604/389/25/Bomb Suit/ई0-141217/संभरण(ऑर्डिनेंस)/मु0रा0सु0गा0/ 325

दि0 २५ मार्च 2026

विषय: बम्ब सुट (BOMB SUIT) के परिशोधित गुणात्मक आवश्यकता (क्यू.आर.) और परीक्षण निर्देशों (टी.डी.) का प्रेषण।

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवम महानिदेशक, राष्ट्रीय सुरक्षा गारद द्वारा अनुमोदित बम्ब सुट (BOMB SUIT) के परिशोधित गुणात्मक आवश्यकता (क्यू.आर.) और परीक्षण निर्देशों (टी.डी.) को अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

संलग्न- उपरोक्तानुसार

(राजेश रंजन)

ग्रुप कमांडर (क्रय)

फोन- 011-25663100

ईमेल- gcproc@nsg.gov.in

वितरण :

1.	संयुक्त सचिव (पुलिस आधुनिकीकरण), गृह मंत्रालय, जेसलमेर हाउस, नई दिल्ली। ई0मेल: us-prov2@mha.gov.in	सूचनार्थ हेतु।
2.	वरिष्ठ तकनीकी निदेशक, एन0आई0सी0, गृह मंत्रालय, नार्थ ब्लॉक, नई दिल्ली। ई0मेल: soit@nic.in mpsugandhi@nic.in	आपसे अनुरोध है कि उपरोक्त क्यू0आर0/टी0डी0 को गृह मंत्रालय के वेबसाईट पर पुलिस आधुनिकीकरण डिविजन- क्यू0आर0- कैटगरी – BDDS Equipment में ऑपलोड करने का कष्ट करें तथा उक्त कैटगरी में क्रम संख्या- 15 पर दर्शाये जा रहे पुराना क्यू0आर0/टी0डी0 दिनांक 02 फरवरी 2023 को वेबसाईट से हटाने का कष्ट करें।
3.	महानिरीक्षक/निदेशक (आर0एण्ड डी), बी0पी0आर0एण्ड डी0, महिपालपुर, नई दिल्ली। ई0मेल- igmod@bprd.nic.in/dd-mod@bprd.nic.in	
4.	अतिरिक्त महानिदेशक, पी0पी0 एण्ड टी0, रूम संख्या- 37, एच ब्लॉक, डी0जी0क्यू0ए0, भारत सरकार, रक्षा मंत्रालय, रक्षा उत्पादन विभाग, गुणवत्ता आश्वासन निदेशालय, नई दिल्ली। ई0मेल: saarmt-dgqa@gov.in	
5.	उप महानिरीक्षक (सम्भरण), के0रि0पु0बल, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली। ई0मेल: digprov@crpf.gov.in/ dcord@crpf.gov.in	
6.	उप महानिरीक्षक (सम्भरण), सी0सु0बल, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली। ई0मेल : digprovfhq@bsf.gov.in / comdtord@bsf.nic.in	
7.	उप महानिरीक्षक (सम्भरण), के0औ0सु0बल, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली। ई0मेल : digprov@cisf.gov.in, aigtech@cisf.gov.in	
8.	उप महानिरीक्षक (सम्भरण), भा0ति0सी0पु0, केन्द्रीय कार्यालय परिसर, लोदी रोड, नई दिल्ली। ई0मेल : digprov@itbp.gov.in/digcommn@itbp.gov.in	
9.	उप महानिरीक्षक (सम्भरण), एस0एस0बी0, आर0के0पुरम0, नई दिल्ली। ई0मेल: digprov@ssbde.in/ cr.ssbde@nic.in	
10.	उप महानिरीक्षक (सम्भरण), असम राईफल, (एल0ओ0ए0आर0 द्वारा) ई0मेल : loar-mha@nic.in	
11.	ग्रुप कमांडर, ऑप्स (डब्लू0ई0), मु0रा0सु0 गारद - सूचनार्थ एवं आवश्यक कार्यवाही हेतु।	
12.	मुख्यालय, सी0टी0एफ0/बी0डी0 यूनिट, रा0सु0 गारद - सूचनार्थ एवं आवश्यक कार्यवाही हेतु।	
13.	स्वा0कमांडर (क्रय) मु0 रा0सु0 गारद - सूचनार्थ एवं आवश्यक कार्यवाही हेतु।	
14.	हिन्दी सेल, मु0 रा0सु0गा0 को इस आशय के साथ है कि उक्त क्यू0आर0/टी0डी0 का हिन्दी रूपान्तरण कर 03 दिन के अन्दर प्रस्तुत करने हेतु।	
15.	नोडल अधिकारी (जेम) - सूचनार्थ एवं आवश्यक कार्यवाही हेतु। ई0मेल:advisor-di@gem.gov.in	
16.	राष्ट्रीय न्यायालयिक विज्ञान विश्वविद्यालय (NFSU), गान्धीनगर (गुजरात) - सूचनार्थ हेतु। ई0मेल:ballistic@nfsu.ac.in	

REVISED QRs AND TDs OF BOMB SUIT

Sr. No.	QR's/Specification	Trial directives
1.	(a) Bomb Disposal Suit is used to protect the operator/technician from blast/heat & fragmentation effect of bomb/ IED (Improvised Explosive Device) during handling of bomb/ IED. (b) Body Protection: Following parts of the body should be protected from the explosion effect of bomb/ IEDs in this regard please also refer to figure and table attached as Appx 'A' read with para 5.8.3 and 6.30.1.1 of NIJ 0117.01. (i) Arms. (ii) Feet, Lower leg & Thighs. (iii) Chest, Groin & Collar. (iv) Spinal cord. (v) Face (visor). (vi) Head (vii) Thorax, Abdomen and pelvis	NIJ 0117.01/ STANAG 2920/ STANAG AEP /MIL STD 662F test parameters will be accepted from any NABL/ National/ International accredited laboratory. OPTION: If user agency needs any one specific certification out of the above mentioned, it may specify accordingly in the NIT.
2.	Certification for bomb suit for following tests from NABL/international accredited labs to be provided. (a) Fragmentation test. (b) Blast overpressure test. (c) Head protection test. (d) Spine protection test. (e) Bomb suit integrity test. (f) Flammability test. (g) Electrostatic discharge test. (h) Slip resistance test. (j) Optics test.	NIJ 0117.01/ STANAG 2920/ STANAG AEP/ MIL STD 662F test parameters will be accepted from any NABL/ National/ International accredited laboratory. OPTION: If user agency needs any one specific certification out of the above mentioned, it may specify accordingly in the NIT.


Sh. Harish Chand,
Asstt Comdt, CRPF


Sh. Jaswant Singh
Asstt Comdt, ITBP


Sh. Binay Kumar, Asstt
Director, BPR&D

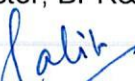

Sh. Vikas Godara,
WO, Assam Rifles


Sh. Rajendra Prasad
Chopra, ATI, BSF


Sh. Moti Lal,
Dy Comdt, SSB


Dr. Saurabh Kumar,
Asstt Professor, NFSU


Parminder Kaur,
Dy Comdt, CISF


Maj Lalit Kumar,
TC (WE), HQ NSG


Lt Col Digvijay Singh
Devada,
OC BD Unit, NSG


Sh. Rajesh Ranjan,
GC (Proc), HQ NSG

Sr No	QR's/Specification	Trial directives
3.	The suit should consist of the following items, which collectively make a complete garment:-	To be checked physically by BOO.
	(a) Jacket with attached collar & patch chord, with additional plate for enhanced protection of chest, neck and groin.	
	(b) Trouser adjustable	
	(c) Foot protection with the help of boot over shoes or similar arrangement.	
	(d) Helmet. Ballistic EOD Helmet protection performance should be as per NIJ 0117.01 standards, equivalent or better. It should contain following accessories/descriptions:-	(i) OEM to furnish test report from any NABL/ Indian Govt lab/ International accredited lab for head protection standards offered by the helmet. (ii) The subject (Bomb technician) will be made to wear the helmet along with complete Bomb Suit. The subject will be made to first run 100m perform the EOD (Explosive Ordnance Disposal) task and walk back to the starting point wearing the complete suit. The protection parameters will be verified using the test certificates produced. However, operator should be able to execute EOD task without any hindrance and same will be checked by BOO. When the subject is bend and performing the task, the helmet should remain intact.
	(i) Visor (Replaceable when damaged) should have arrangement for opening without getting detached from helmet at different positions (up and down).	To be checked physically by BOO.
	(ii) The helmet should be adjustable to accommodate different head sizes.	
	(iii) Visor cover for protection during storage.	
	(iv) Ear protection.	
	(v) Balaclava.	
	(vi) Ventilation system with Blower and demisting. Suit/Helmet mounted fan should provide effective ventilation with control unit within easy reach and vicinity of the bomb technician. Should be provided with an integrated effective demisting arrangement.	To be checked physically by BOO.
	(vii) The helmet should have provision for attaching face mask with respirator to work in hazardous gas environment. (Optional- user to specify at the time of tendering)	To be checked physically by BOO.

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

Sr. No.	QR's/Specification	Trial directives
	(viii) <u>Two way Communication system.</u> Both wired and wireless: - It should provide a two way communication on radio and on wire between operator and base station up to a min distance of 100 meters wired and 200 mtrs wireless (LOS). Built in microphones and headphones / integrate radio communication in helmet facilitating clear communication between bomb technician and commander without compromising the comfort of the bomb technician. (aa) Wireless hands-free (VOX) Communication without use of PTT (ab) Wireless range of 200 mtrs (Min) (ac) Hard Wire Spool 100 mtrs (Min) for wired communication. (ad) Control Module cum amplifier for communication system. (ae) Recording facility for recording live wired communication (Optional for wireless communication). (af) Head set (ag) Built in microphones and headphones/ integral radio communication in helmet facilitating clear communication between bomb technician and commander without any hindrance in performing EOD task. (ah) Power supply. (aj) Minimum one front facing live video camera. (ak) Minimum one front facing search light. (al) The helmet should have built in microphone and speaker for operator to hear all the conversations taking place in the vicinity and automatic decibel cutout sys (85 to 95db) to protect the ears of the operator.	The subject (Bomb Technician) will be made to wear the complete bomb suit .The subject should be able to clearly communicate with base station and ranges as mentioned in QR will be checked by BOO. The subject (bomb technician) in the fully equipped bomb suit gear should be carrying out clear communication with commander at the Command post/Control Centre. The communication system should not hamper the technician while performing EOD tasks. The minimum range of communication are as follows :- (a) with wire – 100 mtrs or better (b) wireless communication(LOS) – 200 or better in open space. The components of helmet will be physically checked by the BOO and there after the subject (bomb technician) will be made to wear the helmet along with the complete bomb suit and perform EOD tasks during which all the components should function. The BOO will check the functions of each component. For Ser No (al). OEM to furnish certificate from any NABL/international accredited laboratory. The parameter will be checked physically by BOO.

[Signature]

[Signature]

[Signature]

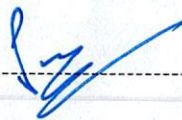
[Signature]

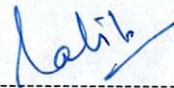
[Signature]

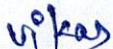
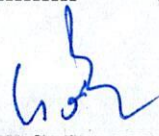
Sr. No.	QR's/Specification	Trial directives
	(ix) Live Video Camera. Helmet must have min one front facing HD video camera of minimum 2 MP resolution and a minimum 10 inch monitor for Live Video transmission to base station located at a distance of 200 mtrs LOS and 100 mtrs in BUA wirelessly.	To be checked physically by BOO.
	(x) The system must have integrated control panel wearable on wrist or within an easy reach of the bomb technician for operating various features of the helmet including light, audio, ventilation controls. (The system may have voice control to operate the features mentioned above as an optional feature , same to be specified by the user during tendering process).	The system must have hand controlled panel within ergonomic reach of the operator for electronic features including light, audio levels, ventilation. No dangling wires more than 15 cm should be present.
	(xi) Suitable arrangement/ mechanism to open and close the visor.	To be checked physically by BOO.
	(xii) 10 x Spare balaclavas or one spare helmet inner liner hood (where applicable) should be provided with the bomb suit helmet.	To be checked physically by BOO.
(e)	Cooling Suit. Cooling suit should provide effective cooling for a period of minimum 30 minutes in an ambient temperature of approximately 35 degrees using the equipment provided.	To be checked physically by BOO.
(f)	Flame resistant hand gloves (detachable).	OEM to furnish lab test reports from NABL/ international lab for flame protection standards offered by the gloves.

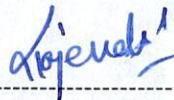


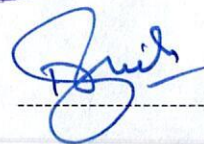




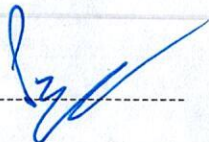



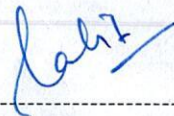
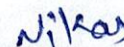
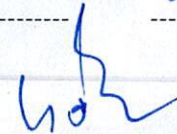


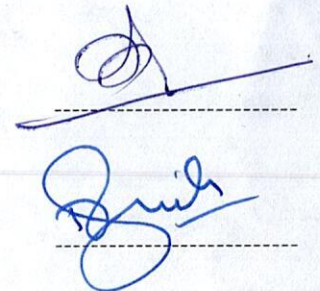



Sr. No.	QR's/Specification	Trial directives
4.	Comfort and fitting of Bomb Suit. The Bomb suit should be comfortable to wear and should not cause inconvenience and interference to bomb technician's ability to carry/ operate other eqpt and mobility of the bomb technician. The same will be checked as per the trial directives.	The comfort and fitting of the bomb suit will be tested as enumerated below by the BOO. Donning and quick doffing test :- (a) One sample of bomb suit offered by the supplier shall be submitted for testing. (b) One subject (Bomb technician) is required to test bomb suit. The test subject selected for bomb suit being tested shall be appropriate based on the supplier sizing chart. (c) An armless chair is required. (d) A timer is required. (e) Test subject initially shall wear loose fitting, nonrestrictive clothing. (f) The subject shall review and practice the supplier's donning and doffing and adjustment procedures prior to the start of the test. (g) The donning test shall begin with the subject sitting in an armless chair with the bomb suit in front of the subject on the floor and out of the package. (h) The subject may be assisted by a single donning assistant and the chair may be used during the process. (j) At a cue from the BOO, the subject shall rise from the chair and begin donning the bomb suit with all accessories in accordance with the supplier's instructions. Timing shall start when the subject receives the cue from the test administrator to begin donning the bomb suit. (k) After completely donning the bomb suit, the bomb suit shall cue the test administrator. (l) Timing shall cease at the cue from the subject. The BOO shall record the donning time.



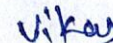


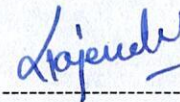
Sr. No.	QR's/Specification	Trial directives
		(m) The quick doffing test shall begin with the subject wearing the properly donned bomb suit and sitting in an armless chair. (n) At a cue from the BOO, the subject shall rise from the chair and begin doffing the bomb suit in accordance with the supplier's instructions. Timing shall start when the subject receives the cue from the BOO begin doffing the bomb suit. (o) The subject shall doff the bomb suit unassisted. The chair may be used during the process. (p) After completely doffing the bomb suit, the subject shall cue BOO. (q) Timing shall cease at the cue from the subject. The BOO shall record the doffing time. (r) The subject shall perform donning and quick doffing of the bomb suit in three trials for the appropriate bomb suit size. (s) The result of the test is the average time of the three trials for donning and quick doffing. (t) The donning and quick doffing times for bomb suit shall be recorded and reported. (u) The average of the three trials for donning of each suit shall be recorded and reported. (v) The suit with all accessories should not take more than 12 minutes for donning assisted by single donning assistant and 3 minutes for doffing when assisted by a single donning assistant. To be physically checked by BOO





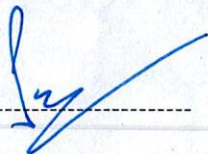


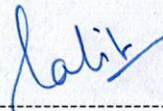


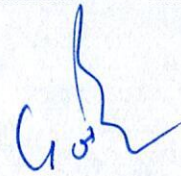














Sr. No.	QR's/Specification	Trial directives
		<u>Coin Recovery Test :-</u> (a) One sample of the size recommended by BOO of bomb suit offered by the supplier shall be submitted for testing. (b) Bomb suit shall be submitted for testing with all required accessories. (c) One subject (Bomb technician) is required to test bomb suit. The subject selected for each bomb suit size being tested shall be appropriate based on the supplier's sizing chart. (d) A coin, whichever available is required for this evaluation. (e) The subject shall don the bomb suit with all required accessories. A coin is to be placed directly behind the subject at a distance of 30 cm (12 inches) from the back of the heels to the center of the coin. (f) The subject may bend over to see the coin and is allowed one and only one step in any direction. The subject shall turn around and pick the coin up. (g) While picking up the coin by the subject at the accessories attached to the bomb suit, Velcros, straps, zips and various connectors are required to be intact, unbroken and undamaged. The helmet should not show any evidence of slack and loose fitting. Complete bomb suit alongwith complete accessories should not show any evidence of any hole, cracking, spelling or damage. Protective elements shall remain attached to the bomb suit and maintain shape integrity. No gaps that expose the bomb technician will be permitted.

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

Sr. No.	QR's/Specification	Trial directives
		<u>Mobility Test :-</u> (a) One sample of the size recommended by BOO of bomb suit offered by the supplier shall be submitted for testing. (b) Bomb suit shall be submitted for testing with all required accessories. (c) One subject (Bomb technician) is required to test bomb suit. The subject selected for each bomb suit size being tested shall be appropriate based on the supplier's sizing chart. (d) The subject shall don the bomb suit. (e) The subject will be made to walk for a distance a 100m. While walking subject will be persistently communicating with the commander. (f) While walking all the accessories attached to the bomb suit, Velcro's, straps, zips and various connectors are required to be intact, unbroken and undamaged. The helmet should not show any evidence of slack and loose fitting. Complete bomb suit alongwith complete accessories should not show any evidence of any hole, cracking, spelling or damage. Protective elements shall remain attached to the bomb suit and maintain shape integrity. No gaps that expose the bomb technician will be permitted. Loss of communication will also be not permitted. (g) The subject will again be made to run for a distance a 100m. while running subject will be persistently communicating with the commander (h) While walking all the accessories attached to the bomb suit, Velcro's, straps, zips and various connectors are required to be intact, unbroken and undamaged. The helmet should not show any evidence of slack and loose fitting. Complete bomb suit alongwith complete accessories should not show any evidence of any hole, cracking, spelling or damage. Protective elements shall remain attached to the bomb suit and maintain shape integrity. No gaps that expose the bomb technician will be permitted. Loss of communication will also be not permitted.

CH
Wash

Cham
Long

Sumar
Latit

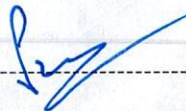
Nikas
Wah

Stojanovic

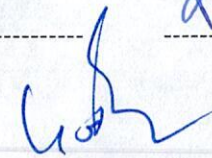
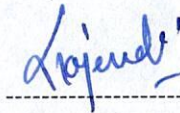
Drish

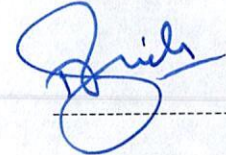
Sr. No.	QR's/Specification	Trial directives
		<u>Incapacitated doffing :</u> The subject should wear the complete bomb suit with all its accessories and lie in face up (supine) position. One trained assistant shall remove the bomb suit (excluding cooling suit) in less than 3 minutes without injuring the subject. The same test to be conducted in face down (prone) position also. <u>Lie on back up & Stand up test</u> (a) The subject shall don the bomb suit. (b) The subject shall lie down on the floor in the supine position and stand up without assistance or the use of external items other than the floor (e.g., wall, chair, test assistant). The subject may roll over if desired. <u>Drag Rescue Device Test.</u> (a) One sample of a bomb suit appropriately sized to fit the bomb technician shall be provided for evaluation. (b) The test shall be performed and the results shall be recorded and reported. <u>Fogging assessment for face shields</u> OEM to furnish certificate as per NIOSH procedure mentioned at para 6.19 of NIJ 0117.01 or equivalent from any NABL/national/ international accredited laboratory. To be physically checked by BOO as under: (a) Record on the data sheet the height and weight of the test subject and the supplier, model, and size of the bomb suit being tested.







Sr. No.	QR's/Specification	Trial directives
		(b) A baseline test shall be performed to establish the visual acuity of the test subject while wearing the bomb suit. The test subject shall don the bomb suit with the face shield in the closed position. The test administrator shall ask the test subject to identify and read aloud all letters of the line of largest letters that can be read when the eye chart is properly positioned 0.41 m (16 inches) from the bridge of the test subject's nose. If a subject correctly identifies all five letters on the chosen line, the subject shall be asked to attempt to read the next line of smaller letters on the charts. This progression shall continue until the test subject is unable to correctly identify at least two letters of a single chart line. One point shall be awarded for each letter read. Note: The chart does not show the largest letters that make up the first 30 points. This baseline visual acuity scale (VAS) shall be recorded as visual analog scale on the data sheet. (Example: 20/200 is 50 points, 20/20 is 100 points.) (c) The test subject shall activate the defogging mechanism. All subsequent measurements shall be taken when the eye chart is positioned 0.41 m (16 inches) from the bridge of the nose. (d) The test subject shall exercise for 5 minutes by walking for a distance of 265 Mtrs. (e) After the exercise, the test subject shall rest for 2 minutes in the standing position on the treadmill. At the end of the 2 minute rest period, the visual acuity test shall be administrated using the same VAS method described in para (b) above. This VAS will be recorded as VAS2 on the test data sheet. (f) The test subject shall exercise for 5 minutes by walking for a distance of 265 Mtrs. (g) After the exercise, test subject shall remain in the standing position. The visual acuity test shall be administrated using the same VAS method described in para (b) above. This shall be recorded as VAS 3. (h) The average VAS and any significant observations shall be recorded on the test data sheet.

CH
Kash

Ghani
✓

Puma
Lotix

Vikas
Vikas

devede

Drish

Sr. No.	QR's/Specification	Trial directives
5.	Foot protection with the help of boot over shoes or similar arrangement. Capable of providing Front or complete protection as per user requirement (User to specify)	The subject (Bomb technician) will be made to wear the boot over shoes. The subject will be made to walk and run. The subject should be capable of performing the EOD task without any discomfort. The boot over shoes should be capable of providing front or complete foot protection (as specified by user during tendering) from heat blast and fragmentation waves and will be tested with relevant test certificate.
6.	Transit bag :- (a) Soft Carrying Bag(s) for bomb suit, helmet and cooling suit. (b) Hard Cases for bomb suit, helmet & cooling suit.	Bomb suit will be placed in the transit bag and checked for handling during transportation.
7.	Hydration bag – Min 1 ltr The use of hydration bag by the operator should not impede or obstruct any feature of the suit and helmet during the EOD operation.	The subject (Bomb technician) will be made to wear the complete suit and functionality of hydration bag will be checked.
8.	Size of Bomb Suit. At least three different size (small, medium & large) to be made available by the Firm. (User requirement specified at tendering stage).	One bomb technician will be made to wear the bomb suit (Suitable size) and perform the EOD tasks. The operators fitting and ability to perform EOD tasks without suit causing any inconvenience will be checked by BOO.
9.	Weight of Bomb Suit. The combined weight of the suit along with complete accessories worn by Bomb Technician should not exceed 45 Kgs.	To be checked physically by BOO.

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

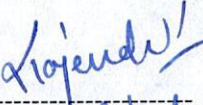
Sr. No.	QR's/Specification	Trial directives
10.	Power Pack. Suitable power pack should be provided with the suit which can provide min 2.5 hrs of working time with all systems switched on. There should be an arrangement at the suitable location on the BD Suit to accommodate it, which should not cause inconvenience and interference to the bomb technician's ability to carry/ operate other equipment and mobility of the bomb technician. The power pack should have battery status indicator on it or on the hand worn controller within the clear vision of the bomb technician. The Battery type should be rechargeable and commercially available off the shelf. The power pack should have outlets:- For all accessories including Helmet. Recharging: - The recharging can be done through AC and DC charger both. Suitable charger should be provided. Spare batteries to be provided as per user requirement.	To be checked physically by BOO.
11.	Material. Manufactured from a suitable flame retardant material. The outer cover of bomb suit should be washable.	OEM to furnish self-declaration certificate regarding the material of the suit as per specification.
12.	Shelf Life & Spare Parts Support. (a) Shelf Life of bomb suit - 07 years (b) Maintenance support in terms of spare parts for repair- 07 years	Certificates of OEM to be checked physically by BOO.


 Harish Chandel
 Asst. Comdt.
 CRPFOS BN


 Jaswant Singh
 AEL
 I.T.B.P. SKO (280)

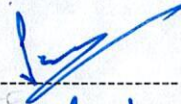

 Binay Kumar, AD
 DRRD

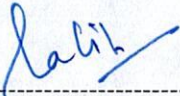

 Lt Vikas Godara
 (Assam Rifles)

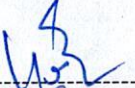

 ATJ Rajendra
 Prasad Chopra

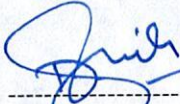

 Moti Lal
 SSB DC


 Dr Saurabh Kumar
 Assistant Professor
 NFSU - Gandhinagar


 Parminder Kaur
 DC / CISK

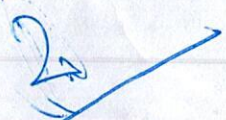

 Maj Lalit Kumar
 TELWE, HQ NSG

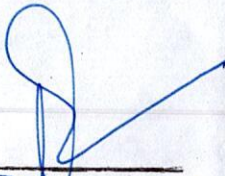

 Rajesh Ranjan
 QC (Prov), NSG


 Lt Col Digvijay Singh
 Devada, OC BD Unit

Approved/ Not Approved


 (B Srinivasan) IPS
 Director General, NSG

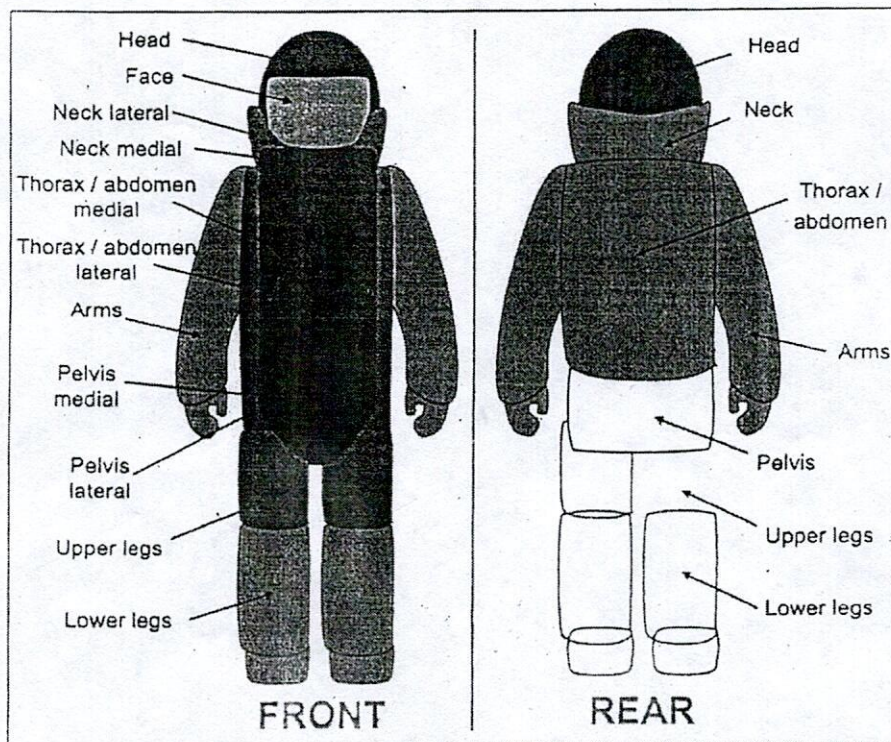

 Rahat R. Nair, IPS
 DIG (Prov), NSG


 Princee Rani, IPS
 I-S (Prov) NSG

APPENDIX A. Protection Areas

The bomb suit protection areas defined for fragmentation testing are detailed in Table 15. For each protection area, the coverage must be equal to or greater than the zone defined by the landmarks listed in Table 15 for the body size for which the bomb suit is intended. The bomb suit protection areas are represented in Figure 5. Front and rear sections are separated by the frontal or coronal plane (see Figure 7). Body landmarks and body planes are illustrated in Figure 6 and Figure 7. Human body directions are shown in Figure 8.

Figure 5. Protection Areas



[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

Table 15. Bomb Suit Protection Area

Armor Type	Protection Area Description	Body Landmarks		
		Medial/Lateral	Superior/Proximal	Interior/Distal
A	Thorax/Abdomen - Front Medial	Front thorax/abdomen between bust points	Sternale	Omphalion
	Pelvis - Front Medial	Front pelvis between bust points	Omphalion	Crotch level
	Neck - Front Medial	Front neck between bust points	Menton	Sternale
B	Face	Front head (Note 1)	Note 1	Note 1
C	Head	Entire head without face area	Vertex	Nuchale
				Menton
				Gonion
D	Legs - Upper Front	Front upper legs	Crotch level	Femoral epicondyles
			Trochanterion	Mid-patella
E	Thorax/Abdomen - Front Lateral	Front thorax/abdomen lateral to the bust points	Sternale	Omphalion
	Neck - Front Lateral	Front neck lateral to the bust points	Nuchale	Cervicale
			Menton	Sternale
	Pelvis - Front Lateral	Front pelvis lateral to the bust points	Omphalion	Crotch level Gluteal furrow
F	Thorax/Abdomen - Rear	Rear thorax/abdomen	Cervicale	Omphalion
	Arms	Front and rear arms	Acromion	Radial styloid
			Anterior scye	Styloid
			Posterior scye	Wrist crease
	Neck - Rear	Rear neck	Nuchale	Cervicale
	Legs - Lower Front	Front lower legs	Femoral Epicondyles	Medial malleolus
			Mid-patella	Lateral malleolus
				Ankle crease
G	Pelvis - Rear	Rear pelvis	Omphalion	Gluteal furrow
	Legs - Rear	Rear legs	Gluteal furrow	Medial malleolus
			Trochanterion	Lateral Malleolus
				Ankle crease

Note 1: Area large enough to meet FOV requirements.

Qd
Xijend'
labit

GATMAN
A
WZ

Brian
Wash
-

Vikas
fuz
Buck