

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

संख्या-पी/604/24/389/ई0-145794/एन0एल0जे0ई0/संभरण(ऑर्डनेंस)/मु0रा0सु0गा0/ 1934 दि0 17 अप्रैल 2025

विषय: नॉन लिनियर जंक्शन इवालुएटर (NLJE) के परिशोधित गुणात्मक आवश्यकता (क्यू.आर.) और परीक्षण निर्देशों (टी.डी.) का प्रेषण।

तकनीकी विशेषज्ञों के उप समूह द्वारा किए गये सूत्रीकरण एवम महनिदेशक, राष्ट्रीय सुरक्षा गारद द्वारा अनुमोदित नॉन लिनियर जंक्शन इवालुएटर (NLJE) के परिशोधित गुणात्मक आवश्यकता (क्यू.आर.) और परीक्षण निर्देशों (टी.डी.) को अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।

संलग्न- उपरोक्तानुसार


(प्रवीण कुमार सिंह)

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 वेबसाइट पर पुलिस आधुनिकीकरण डिविजन- क्यू0आर0- कैटगरी - बीडीडीएस उपकरण में ऑपलोड करने का कष्ट करें तथा उक्त कैटगरी में क्रम संख्या- 09 एवं 15 पर दर्शाये जा रहे पुराना क्यू0आर0/टी0डी0 को वेबसाइट 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@ssbdel.in/ cr.ssbdel@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 (सम्भरण) जेम, मु0 रा0सु0 गारद - सूचनार्थ एवं आवश्यक कार्यवाही हेतु।	

REVISED QRs/TDs OF NON LINEAR JUNCTION EVALUATOR (NLJE)

S No	Parameters	Qualitative Requirements	Trial Directives
1.	<u>Physical Characteristics</u>	<p>(a) The eqpt should be light weight and made of non-corrosive material/aluminium/ carbon fiber/ glass fiber etc.</p> <p>(b) The detector and its accessories should be comfortable for handling.</p> <p>(c) Material should have proven reliability and durability.</p>	<p>For Sr No (a) Firm to provide OEM certificate specifying the composition of the material of the eqpt, BOO to physically check the same.</p> <p>For Sr No (b) and (c) BOO to physically check the same</p>
2.	<u>Transmitter</u>	<p>✓ (a) <u>Frequency:</u> Any frequency range between 800 - 1000 MHz with variable frequencies.</p> <p>Eqpt should be capable of switching min 20 frequencies / channels, having a minimum spacing of 1 MHz.</p> <p>(b) <u>Maximum Average Power Output :</u> Should not be more than 4 watts.</p> <p>(c) <u>Power Type:</u> Pulse or Continuous.</p>	<p>OEM to furnish test certificate from any Indian Govt Lab. BOO to physically check the certificates and same will be tested at SIW, BSF by BOO.</p> <p>OEM to furnish test certificate from any Indian Govt Lab. BOO to physically check the certificates</p> <p>OEM to furnish test certificate from any Indian Govt Lab. BOO to physically check the certificates</p>
3.	<u>Receiver</u>	<p>✓ (a) Should have receiver frequency for 2nd and 3rd harmonics (1600-2000 MHz and 2400 to 3000 MHz).</p> <p>(b) Eqpt should have sensitivity to be minus (-) 125 dBm or better.</p>	<p>OEM to furnish test certificate from any Indian Govt Lab. BOO to physically check the certificates.</p> <p>OEM to furnish test certificate from any Indian Govt Lab. BOO to physically check the certificates for correctness.</p>

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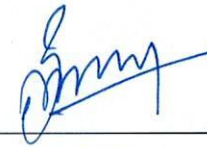
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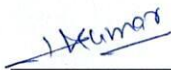
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S No	Parameters	Qualitative Requirements	Trial Directives
4.	<u>Search Head with Telescopic Extension</u>	(a) <u>Search Antenna</u> : Should have high gain antenna.	BOO to check the self-declaration certificate furnished by OEM.
		(b) <u>Search Head Light. (Optional Requirement – tendering agency to specify)</u> Should have a LED search light on the search head to carryout search during dark condition.	BOO to physically check the same
		(c) <u>Cables</u> : No cable and connectors to be seen when the eqpt is in collapsed position and when the eqpt is fully extended. No cables and connectors should also be seen between the search head and the extension arm in any circumstances. All wires to be integrated into telescopic pole. It should not interfere with operators' comfort & working.	BOO to physically check the same
		(d) <u>Telescopic Arm</u> : Length of the telescopic arm when in fully extended position to be min 1.25m (to be measured from the rear edge of the equipment to the front edge of the search head, when search head is kept parallel to the telescopic arm).	BOO to physically check the same.
5.	<u>Detection Alarm</u>	Eqpt should give detection alarm by audio & visual. Vibrational (Optional).	BOO to physically check the same





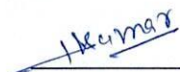


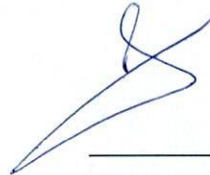
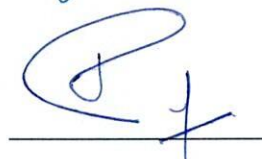


S No	Parameters	Qualitative Requirements	Trial Directives
6.	<u>Display</u>	<p>(a) Equipment should have LED/LCD visual indicator.</p> <p>(b) Display to be clearly visible to operator during day time and night following parameters to be displayed on to the display.</p> <p>(i) Power selection status</p> <p>(ii) Channel/ Frequency band</p> <p>(iii) Standby Mode Status</p> <p>(iv) Harmonic selection status</p> <p>(v) Volume</p> <p>(vi) Sensitivity</p> <p>(vii) Detection Alarm status</p> <p>(viii) Low battery indicator-Equipment should indicate low battery.</p> <p>(ix) Clearly distinguishable visual indicators separately for 2nd and 3rd harmonics in all light conditions including fully dark conditions and bright sunlight, when eqpt detects suspicious object.</p>	<p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p> <p>BOO to physically check the same</p>
7.	<u>Control Functions</u>	<p>Control function necessary to operate the eqpt should be facilitated on the hand grip for better operator comfort and efficiency. The control functions includes following function that can be selected using different buttons for different functions or using a navigation menu:-</p> <p>(a) <u>Power Selection</u> : Power Selection facility for the operator to select power.</p> <p>(b) <u>Volume</u> : Volume adjustment facility for the operator to select volume level.</p> <p>(c) <u>Channel Selection</u> Both automatic and Manual channel selection to be available for selecting different frequency channels/bands as per operators need.</p>	<p>BOO to physically check the same.</p> <p>BOO to physically check the same.</p> <p>BOO to physically check the same.</p>






S No	Parameters	Qualitative Requirements	Trial Directives
		(d) Standby Mode Eqpt should have a facility to put the eqpt on standby mode manually in order to save the battery of the eqpt.	BOO to physically check the same.
		(e) Harmonic Selection Eqpt should have facility to select 2 nd harmonic, 3 rd harmonic and both.	BOO to physically check the same.
		(f) Brightness Equipment should have facility to adjust the brightness of the display.	BOO to physically check the same.
		(g) Search Head Light (Optional requirement - tendering agency to specify) Equipment should be capable of switching the search light ON/OFF.	BOO to physically check the same.
		(h) Sensitivity Selection facility for the operator to select sensitivity.	BOO to physically check the same.
8.	Audio	Compatible headphones/ earphones to be provided. There should be different audio tone for different harmonics.	BOO to physically check the same
9.	Test Target	Different test targets for 2 nd and 3 rd harmonics respectively provided by firm.	BOO to physically check the same in the following manner. (i) Switch on the eqpt and keep the test target for each harmonics independently at a distance more than 2 m apart on ground surface. (ii) Bomb technician will sweep the eqpt in the prescribed manner a decided by the BOO Eqpt should give detection alarm visually, by audio means and by vibration (Optional) for each test targets differently.

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S No	Parameters	Qualitative Requirements	Trial Directives
10.	<u>Detection Capability</u>	(a) Open Space – Min 40cm or better.	For Open Space.
			(i) Make a search lane for 4 x 4 m and mark the lane.
			(ii) Keep power diode targets in open space on the search lane at any two different points.
			(iii) Switch ON the eqpt and test the targets for each harmonics independently at a distance more than 2 m apart (with max power output/ transmission and max sensitivity).
			(iv) Start sweeping the eqpt in the manner prescribed by BOO.
			(v) Measure the distance of target from the bottom of the search head once the detection alarm sounds. The distance should be 40cm or more.
		(b) Dug underground - Min 20cm or better	For Dug Underground
			(i) Make a search lane for 4 x 4 m and mark the lane.
			(ii) Take a power diode and place it underground at a depth of 20cm and cover it with soil recovered. (In the absence of operator/ bomb technician handling or sweeping the eqpt).
		✓ (c) Dug concrete - Min 10cm or better	(iii) Switch ON the eqpt (with max power output/ transmission and max sensitivity.
			(iv) Start sweeping the eqpt in the manner prescribed by BOO. The audio and visual alarm should indicate the presence of power diode.
			For Dug Concrete
			(i) Make a search lane for 4 x 4 m and mark the lane.
			(ii) Take a power diode and place it under 10cm thick concrete. (In the absence of operator/ bomb technician handling or sweeping the eqpt).
			(iii) Switch ON the eqpt (with max power output/ transmission and max sensitivity.
			(iv) Start sweeping the eqpt in the manner prescribed by BOO. The audio and visual alarm should indicate the presence of power diode.

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S No	Parameters	Qualitative Requirements	Trial Directives
11.	<u>False Alarm Rate</u>	Should be less than 5 percent	<p>Trial to be conducted in the following manner:</p> <p>(i) Take any 10 power diodes available with the user.</p> <p>(ii) Dug out 20 pits at a distance to be decided by the BOO in a single line.</p> <p>(iii) Put diodes in 10 pits out of 20 pits at a depth of 20 cm and cover it with soil recovered. (In the absence of firm representative handling or sweeping the eqpt).</p> <p>(iv) Enter the record of 20 pits on a paper in a tabular form by BOO.</p> <p>(v) The firm representative has to swap 20 pits in sequence as decide by BOO and the record of detection to be maintained.</p> <p>(vi) The false alarm to be less than 5 % percent.</p>
12.	<u>Pin Point Detection</u>	Eqpt should be capable of pinpointing detected material to (+/-)10cm in open space and underground. The eqpt should be capable of detecting the target with pin point accuracy.	<p><u>For Open Space</u></p> <p>(i) Make a search lane for 4 x 4 m and mark the lane.</p> <p>(ii) Keep a power diode in open space on the search lane at any point.</p> <p>(iii) Switch ON the eqpt (with max power output/ transmission and max sensitivity).</p> <p>(iv) Start sweeping the eqpt in the manner prescribed by BOO.</p> <p>(v) When detection alarm sounds measure the horizontal distance of diode from the centre of the search head to the centre of the diode.</p> <p><u>For Dug Underground</u></p> <p>(i) Make a search lane for 4x4 m and mark the lane.</p> <p>(ii) Take a power diode and dug it underground at depth of 20 cm. (In the absence of operator/ bomb technician handling or sweeping the equipment).</p> <p>(iii) Switch ON the eqpt (with max power output/ transmission and max sensitivity)</p> <p>(iv) When detection alarm sounds measure the horizontal distance of diode from the centre of the search head to the centre of the diode.</p>

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S No	Parameters	Qualitative Requirements	Trial Directives
13.	Battery	(a) Dry rechargeable battery to be provided.	BOO to physically check the same.
		(b) Operational time to be min 4 hrs.	(i) Switch ON the equipment with a fully charged battery in detection mode with max power output and max sensitivity.
			(ii) Note down the start time.
			(iii) Observe the eqpt time to time and keep the eqpt in operational condition.
			(iv) Operational time should be min 4 hrs.
		(c) One set Spare rechargeable battery to be provided.	BOO to physically check the same.
		(d) Battery to be commercially available in the local market.	OEM to furnish self declaration certificate for the same and BOO to physically check the same.
		(e) Reverse polarity protection to be provided.	The battery should not enter in reverse polarity inside battery slot of the equipment. In case battery does get fitted in reverse polarity equipment should not get damage. BOO to physically check the same.
		(f) Battery to be having warranty of min 2 yrs.	OEM to furnish self declaration certificate for the same.
		(g) Full battery charging time to be max 3hrs (There should be provision to charge all operational batteries simultaneously in one charger).	BOO to physically check the same.

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S No	Parameters	Qualitative Requirements	Trial Directives
14.	<u>Bty Charger</u>	(a) 180-240 AC battery charger to be provided with short circuit protection. Charger should have battery charging status indicator battery charger to be capable of charging all the batteries required for operation of the equipment at a single time. If, multiple batteries exist, single/ multiple battery charges may be provided to charge all batteries simultaneously.	BOO to physically check the same.
		(b) 12-15 V DC (input) charger to be provided with the equipment capable of charging all the batteries required for operation of the equipment at a single time.	BOO to physically check the same.
		(c) Reverse polarity protection to be provided.	The battery will be inserted in the battery charging slot of the charger. The charger should not allow the battery to be fitted in reverse polarity it should not get damage. BOO to physically check the same. Firm to provide OEM/self-declaration certificate.
15.	<u>Operational Weight</u>	Operational weight should not exceed 2.5 kg (which includes equipment with battery inserted & switched ON, Harness and Headphones).	BOO to physically check the same.
16.	<u>Transportation weight</u>	Transportation weight should not exceed 10 kg including all accessories.	BOO to physically check the same

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S No	Parameters	Qualitative Requirements	Trial Directives
17.	<u>Mutual Interference</u>	Two eqpts of the same make from same OEM while working in close range (min 50 cm) should not interfere each other's operational efficiency/ working.	OEM to provide test certificate from Indian Govt lab for the same. BOO to physically check the certificate.
18.	<u>Booting Time</u>	Booting time for the equipment should not exceed 60 sec.	BOO to physically check the same.
19.	<u>Search Head Cover</u>	Cover for the search head to be provided.	BOO to physically check the same and OEM to furnish self-declaration certificate for the same.
20.	<u>Operational Temp Range</u>	-5 degree c to +55 degree c or better	OEM to furnish test certificate from national/international accredited lab. BOO to physically check the same.
21.	<u>Humidity</u>	90 % percent RH	OEM to furnish test certificate from national/international accredited lab. BOO to physically check the same
22.	<u>Activation</u>	The system should not activate any radio controlled device in close proximity to search head.	BOO to physically check the certificate from national/ govt/international accredited lab.
23.	<u>IP Standard</u>	Equipment to be min IP 63 standard or better	OEM to furnish test certificate from national/international accredited lab. BOO to physically check the same.
24.	<u>Soft Carrying case</u>	The detector should come with its all accessories in a water resistant soft carrying case.	BOO to physically check the same

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S No	Parameters	Qualitative Requirements	Trial Directives
25.	<u>Hard Carrying case</u>	A ruggedized hard carrying case as per Mil Std 810 H to be provided for transportation and storage of the eqpt which will also accommodate all accessories of the eqpt.	OEM to furnish test certificate from national/international accredited lab. BOO to physically check the same
26.	<u>Operational Life</u>	Minimum eight years	OEM to furnish undertaking for the same .
27.	<u>Warranty</u>	Warranty of the eqpt should be minimum three years (36 months) and Supplier and OEM should give undertaking for supplying spare parts and service for 8 years including warranty period.	OEM to furnish undertaking for the same.
28.	<u>Spare List and Spare parts</u>	OEM to furnish MRLS (manufacturer recommended list of spares)	(a) OEM to furnish list, self-declaration regarding the same and BOO to physically check the certificate and list. (b) OEM to furnish undertaking for the same.
29.	<u>Trg</u>	(a) OEM/ auth firm to provide operational training to bomb technicians/ individual for a week as per user requirements. (b) OEM/ auth firm to provide user level maintenance training to Bomb technicians/ individual for a week as per user requirement.	(a) OEM to furnish undertaking for the same. (b) OEM to furnish undertaking for the same.

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30.	<u>Tools</u>	(a) OEM to provide tool kit to carryout repair of the eqpt at user level (List of tools to be furnished by OEM) (b) OEM to provide cleaning tool kit required for the eqpt (List of tools to be furnished by OEM)	(a) BOO to check the list of tools and OEM to furnish undertaking (b) BOO to check the list of tools and OEM to furnish undertaking
31.	<u>Manual</u>	(a) OEM to provide User manual (both hard and soft copy). (b) OEM to provide maintenance manual (both hard and soft copy).	BOO to physically check the same

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NITISH KR. TOMAR
Dy. Comdt. CISF

Nemi Chand
DC, ITBP

Vinod
(VINOD, DC
95BN ASF)

Ummed Singh
AC
CRPF

Maj Sagar Singh
TC, BD Unit, NSG

Sub Maj
Prahlaad Kumar
A.R.

Ram Singh
CDU/10 Ram Singh
SSB
Lt Col SK Mahale
SCC(WG), HQ NSG

Col Atul
Col Atul
(RETD)
IBP Rtd.

Akhil
Akhil Kumar Pinnari
GC (Proc), HQ NSG

Prince Ravi
Prince Ravi, IPS
IG (Proc), HQ NSG

Approved/ Not Approved

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(B Srinivasan) IPS
Director General, NSG