संख्या. पी-63013/117/04/2025/मोड–।/सी0सु0बल/5218-22

भारत सरकार, गृह मंत्रालय
महानिदेशालय सीमा सुरक्षा बल
(रसद निदेशालय: आधुनिकीकरण सैल)
(Email-comdtord@bsf.nic.in)
(Fax: 011-24367683)
ब्लाक संख्या . 10,
सीजीओ काम्पलैक्स,
लोधी रोड, नई दिल्ली–03
दिनांक 26 दिसम्बर 2025

वरिष्ठ तकनीकी निदेशक
The Senior Technical Director
राष्ट्रीय सूचना–विज्ञान केन्द्र, नोर्थ ब्लाक,
गृह मंत्रालय, नई दिल्ली
NIC, North Block, MHA
New Delhi
(द्वारा ई–मेल)
(ई–मेल पता : mpsugandhi@nic.in)

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

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

2. उपरोक्त विष्यान्तर्गत सूचित किया जाता है कि तकनीकी विशेषज्ञों के उप समूह द्वारा **"Global Positioning System (GPS) - Revision"** के गुणातमक आवश्यकता/परीक्षण निर्देशों के मसौदें का प्रारुप दिनांक 23 दिसम्बर 2025 को आयोजित सभा के दौरान तैयार किया गया, जिसको इस आश्य से प्रेषित किया जा रहा है कि उक्त उपकरण के गुणातमक आवश्यकता/परीक्षण निर्देश को गृह मंत्रालय की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें।

संलग्नः उपरोक्तनुसार

कपिल चाहर 26/12/25
(कपिल चाहर)
उप कमाण्डेंट (मोड)

प्रतिलिपि :-

1. SO (IT), North Block, MHA **(Through E-mail)** **(E-mail address: soit@nic.in)** : उपरोक्त उपकरण के गुणातमक आवश्यकता /परीक्षण निर्देशों के मसौदा को आपके सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित किया जाता है।
2. IT Wing, FHQ BSF : उपरोक्त उपकरण के गुणातमक आवश्यकता /परीक्षण निर्देशों के मसौदे को सीमा सुरक्षा बल की वैबसाईट पर 15 दिन के लिए अपलोड करने का श्रम करें। आपसे अनुरोध है कि उक्त मसौदे को गृह मंत्रालय की वैबसाईट पर भी अपलोड करने हेतु निम्नलिखित पतों पर ई–मेल करने का श्रम करें:-
   (a) Technical Director, NIC, North Block, MHA
   (E-mail : mpsugandhi@nic.in)
   (b) SO (IT), North Block, MHA
   (E-mail : soit@nic.in)
3. Prov Dte (Ord Sec), FHQ BSF : For information w.r.t your UO No.3827 dated 25 Sept 2025.
4. File.

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

संख्या. पी-63013/117/04/2025/मोड–।/सी0सु0बल/ दिनांक ___दिसम्बर 2025

विषय : **"Global Positioning System (GPS) - Revision" के गुणातमक आवश्यकता/ परीक्षण निर्देशों पर हितधारकों/ निर्माताओं/ विक्रेताओं की टिप्पणी के लिए अनुरोध।**

"Global Positioning System (GPS) - Revision" के गुणातमक आवश्यकता और परीक्षण निर्देशों को परिशिष्ट 'ए' के रुप में संलग्न किया गया है। हितधारकों/निर्माताओं/विक्रेताओं से अनुरोध किया जाता है कि वे उस उत्पाद की विस्तृत एवं स्टीक जानकारी दें। साथ ही प्रत्येक पैरामीटर के अनुरुप अपने उत्पाद के सही विवरणों को प्रस्तुत करें । सिर्फ 'अनुपालना' या ' अनुपालना नहीं' वाली टिप्पणी स्वीकार नहीं की जाएगी।

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

1. आवश्यक जानकारी/विवरण 9 जनवरी 2025 तक निम्नलिखित पते पर भेजे जा सकते हैं।

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

2. शीघ्र प्रतिकिया का अनुरोध किया जाता है।

(कपिल चाहर)
उप कमाण्डेंट (आधुनिकीकरण)

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

No. P-63013/117/04/2025/Mod-I/BSF/ Dated, the __Dec 2025

Subject : Request for comments of stakeholders/OEM/Firms on QRs (Qualitative Requirements) & TDs (Trial Directives) of "Global Positioning System (GPS) - Revision"

The draft QRs/TDs **"Global Positioning System (GPS) - Revision"** is attached as **Appendix-'A'.** The OEMs/Vendors are requested to forward information of the product, which they can offer and also forward correct specifications of their system against each parameter. Only complied or not complied remarks will not be accepted. The firms are also requested to furnish the following details:-

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

2. The required information/details may please be forwarded at the following addresses by 09.01.2025.

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

3. An early response is requested.

26/12/25

(Kapirl Chahar)
Dy. Commandant (Mod)

Appendix-A

DRAFT QRS & TDS OF GLOBAL POSITIONING SYSTEM (GPS) - REVISION

S/No	Parameter/ Specification	Trial Directives	RESULT EXPECTED/ DESIRED	Remarks
Navigation features:				
1.	**Display** TFT Color Display size 2.9" Minimum diagonal.	To be physically checked by BOO. Measure the TFT Color Display size diagonally with the help of scale or measuring tape.	TFT Color Display size must be 2.9" Minimum diagonally.	
2.	**Routes** Minimum 200 routes with compatible SD memory card.	To be physically checked by BOO. Switch 'ON' the GPS and create at least 25 routes. Firm to be provide OEM Certificate for minimum 200 routes.	The GPS must have the memory to save minimum 200 routes with compatible SD memory card.	
3.	**Way points** Unit must have capacity to store 5000 way points.	(i) Firm to be provide OEM Certificate in respect of ability to store 5000 way points. (ii) To be physically checked by BOO for storing 25 way points approximately.	The GPS must have capacity and memory to store 5,000 way points.	
4.	**Tracks** Must be able to store 10,000 track points and 200 GPX tracks.	i) Firm to provide OEM Certificate in respect of ability to store 10,000 track points and 200 GPX tracks. ii) To be physically checked by BOO storing 25 track points and 25 GPX tracks approximately physically in GPS or by unloading from PC.	The GPS must be able to store 10,000 track points and 200 GPX tracks.	
5.	**Track back** Storage of track log files should be provided	i) To be physically checked by BOO. ii) Create a route and then activate it after reaching destination, check the back track log in the GPS as per the procedure provided in the GPS.	The GPS must have provision for storage of track log files.	
6.	**Map Datum's** Should have the facility for user- defined datum with inbuilt standard datum's including Indian datum.	i) To be physically checked by BOO. ii) Check the GPS for standard Map datum's including Indian datum, WGS-84 & user defined datum provided in the system.	The system must have the facility for user-defined datum with inbuilt standard datum's including Indian datum.	
7.	**Co-ordinates** **Lat/Lon, UTM, MGRS (Indian GR system (IGRS) with Auto IGRS zone selection) and other grid based on user defined requirements.**	i) To be physically checked by BOO. ii) Check the GPS for Co- ordinate system including Lat/Lon, UTM, MGRS (Indian GR system (IGRS) with Auto IGRS zone selection) and other grid based on user defined requirements. iii) Check the facility of selecting Indian GR system including options of pre-loaded nine zones of Indian grid reference coordinate system.	The GPS must have coordinate system including Lat/Lon, UTM,MGRS (Indian GR system (IGRS) with Auto IGRS zone selection) and other grid based on user defined requirements.	
8.	**Co-Ordinates conversion** The system should have the provision to convert Co-Ordinates from Lat-Lon to IGRS & vice versa.	i) To be physically checked by BOO. ii) Check the GPS for converting Co-ordinates. Get Co-ordinate in Lat/Lon of a point and feed it in the GPS for getting the IGRS value of the same. Again feed the IGRS co-ordinate of a point in the GPS and get the Lat/Lon value of the same point through GPS.	The system must have the provision to convert Co-ordinates from Lat/ Lon to IGRS & vice versa.	
9.	**Safety** The System should have the provision of password protection for prevention	i) To be physically checked by BOO. Check the system for the provision of setting password in the start when the system will be switched 'ON'.	The System must have the provision of password protection for prevention of unauthorized user.	

S/No	Parameter/ Specification	Trial Directives	RESULT EXPECTED/ DESIRED	Remarks
	of unauthorized user and encryption of data stored.	(ii) Firm to provide OEM certificate in respect of encryption of data stored. iii) The system should have provision for validation of co-ordinates. It should create alert in case of wrong entry of co-ordinates and map sheet number during storage of way point.	It should also have provision for encryption of stored data in memory card to deny unauthorized access. System should also have provision for validation of Co-ordinates. It must create alert in case of wrong entry of co-ordinates and map sheet number during storage of way point	
10.	**Navigation screens** Should display battery status, Own position, Altitude, Compass, Graphical plot, Speed & Time, Total distance covered and Cross track error.	i) To be physically checked by BOO. ii) Switch 'ON' the GPS and check the display screens for battery Status, own position altitude, compass, graphical plot, speed & time and verify its functionality. Set the GPS to navigate a way point far away (200 meters) from the own position and start navigation. iii) Check the total distance covered and cross track error display screen during the navigation.	The system must have provision of on screen display regarding battery status, own position, altitude, Compass, Graphical plot, Speed &Time, total distance covered and Cross track error.	
11.	**PC Interface** Should be provided software to upload and download the data with high speed data USB port.	To be physically checked by BOO. Store 5 to 10 way points and create two routes having 3 to 4 legs in the GPS. Install the software in the PC and connect the GPS with the help of cable provided through USB port. Create & store 5 to 10 way points and two routes having 3 to 4 legs in the PC. Download the way points and routes created in the GPS to the PC and upload way points & routes from PC to GPS.	GPS must have capable with software to upload and download the data with high speed USB port.	
12.	**Language** English for operation.	To be physically checked by BOO.	GPS must have English language for operation.	
13.	**Alarm** Off track visual indication and arrival audio alarm.	i) To be physically checked by BOO. ii) Switch 'ON' the GPS and navigate to a way point **≥ 100** meters away. Check the GPS navigation screen for 'OFF track' visual indication and arrival at destination audio alarm.	GPS must have Off track visual indication and arrival at destination audio alarm.	
14.	**Way point icons** Should be provided	To be physically checked by BOO. Switch 'ON' the GPS and store 10 way points by allotting icons from the icon bank provided in the database of GPS.	GPS must have way point icon bank.	
15.	**Compass** Should have built in 3 axis electronic compass for real time direction indication without GPS fix.	i) To be physically checked by BOO. ii) Check the GPS for built in 3 axis electronic compass for real time direction indication without GPS fix i.e. inside a building where the satellite signals are not accessible.	GPS must have built in 3 axis electronic compass for real time direction indication without GPS fix.	
16.	**Radio Comn Interface** Optional **(To be defined by the user if required).**	To be physically checked by BOO. The facilities of Radio communication interface should be checked as per the user requirement.	GPS must have Radio Comn interface in case required/defined by user.	

S/No	Parameter/ Specification	Trial Directives	RESULT EXPECTED/ DESIRED	Remarks
PERFORMANCE:				
17.	**Receiver** **Receiver:** Min 24 Parallel channel receiver and should be compatible to receive signals from **IRNSS (NavIC),** GPS and GLONASS/GALILEO /QZSS.	i) To be physically checked by BOO. ii) Check minimum receiver channel available in the GPS by switching 'ON' it under open sky. The firm has to submit National / international accredited Lab report / certificate in r/o compatibility to receive signals from **IRNSS (NavIC),** GPS and GLONASS/GALILEO /QZSS.	The system must have 24 Channel receiver and able to receive signal from **IRNSS (NavIC),** GPS and GLONASS/GALILEO /QZSS.	
18.	**GNSS selection features:** The system shall have provision to select NavIC only mode.	To be physically checked by BOO. The system should be configured in NavIC –only mode and receive signal from only NavIC satellite and not from other satellites.	The system must have configured in NavIC –only mode.	
19.	**Acquisition** <=20 second hot, <=60 seconds warm and 3 minutes cold.	i) To be physically checked by BOO. ii) Insert the battery or cells in the GPS and switch it 'ON'. Count the time taken to fix the position by the GPS during following conditions: a) Cold - When GPS is in switched `OFF' condition from last 3 to 4 hours. While walking on ground in open space with GPS position fixed (count the time from Switching 'ON' GPS to fix the GPS). b) Warm - When GPS is in Standby mode. While walking on ground in open space with GPS position fixed (count the time from count the time from GPS 'ON' to fix the GPS). c) Hot - When GPS is in switched `ON' condition. While walking on ground in open space with GPS position fixed and pass through overhead obstacle (where satellite signal is not accessible) then move again to the open space (count the time from crossing the Overhead obstacles open space till GPS fix).	The acquisition time taken by the GPS to fix the position must be as under: 3 minutes in cold ≤60 seconds in warm ≤ 20 second hot	
20.	**Mapping units and software** Loading of maps of user specific format in the GPS unit along with map loading software should be provided. Also an option to load satellite images into GPS unit. It should also support raster maps in Geo TIFF, JPG etc. formats, Vector maps or digital maps (Shape files).	i) To be physically checked by BOO. ii) Check the GPS display with map in background by loading military map in the system with the help of map loading latest software (if required) provided with the GPS. iii) Check the GPS by loading satellite map images from web site into the system through PC. **Note : user must know about the specific format of the maps available with the concerned CAPFs and provide a soft copy of an area as a sample to board at the time of evaluation. So that firm may arrange demonstration to load the map in the GPS.**	The GPS must have the map loading latest software to load the map of user specific format in the system. It must also have option to load satellite images in to GPS unit. It must also support raster maps in Geo TIFF, JPG etc. formats, Vector maps or digital maps (Shape files).	
21.	**Unit to Unit transfer** Data can be transferred from one unit to another unit via wireless or Bluetooth.	i) To be physically checked by BOO. ii) Create limited database of way points and routes in two GPS. Transfer the data (from data base) from one system to another via wireless or Bluetooth and vice versa.	The GPS must have the facility to transfer the data from one unit to another unit via wireless or Bluetooth.	

S/No	Parameter/ Specification	Trial Directives	RESULT EXPECTED/ DESIRED	Remarks
		Note: 02 GPS to be provided by the firm as tender sample for evaluation.		
22.	**Update rate** One per second continuous.	To be physically checkedby BOO.	Update rate of GPS must be one per second continuous.	
23.	**Accuracy** ≤5 meters or better	i) To be physically checked by BOO. ii) Select a prominent point whose GR is known. Take the GPS to the point and check the positional data of that positional point through GPS. Compare both the values.	≤ 5 meter or better	
24.	**Power (Source)** Rechargeable Batteries 'AA' size (NIMH or Lithium) and compatible battery charger. The battery should function for 10 hours minimum in operational mode and 24 hours minimum in standby mode. **One set spare battery should be provided.** Or Inbuilt Li-ion rechargeable Battery and compatible battery charger. The battery should function for 18 hours minimum in operational mode and 24 hours minimum in standby mode.	To be physically checked by BOO.	Specifications must be as per mentioned in QRs.	
25.	**Operating system** The GPS software should be compatible with window 7 or higher that normal personal computer and Laptop use.	i) To be physically checked by BOO. ii) Check the compatibility of GPS software with Microsoft Window form Window 7 or higher onwards by installing on Desktop & Laptop and transferring the GPS data from PC to GPS & vice versa. iii) Firm to provide undertaking certificate in this regard and also software up-gradation for 7 years. BOO to check the certificate.	The GPS software must be compatible with windows 7 or higher onwards operating system that normal personal computer and Laptop use.	
PHYSICAL:				
26.	**Weight** Upto 400 gms with batteries.	To be physically checked by BOO.	The weight of GPS must be maximum 400 gms with batteries.	
27.	**Display** Sunlight-readable, High contrast colour display with back light.	To be physically checked by BOO.	Display of the GPS must be Sunlight-readable, High contrast colour display with back light.	
28.	**Keyboard/ Touch Screen** Should have keys or multi-function keys or soft keys (touch screen) for easy &	To be physically checked by BOO.	GPS must have keys or multi-function keys or soft keys (touch screen) for easy & quick	

S/No	Parameter/ Specification	Trial Directives	RESULT EXPECTED/ DESIRED	Remarks
	quick operations like navigation, set up, illumination, Go to, point logging and marking.		operations like navigation, set up, illumination, Go to, point logging and marking.	
29.	**Case** GPS should be ruggedized and IP67 Compliant or better.	i) To be physically checked by BOO. Immerse GPS in water up to a depth of 1 meter for 30 minutes. ii) Check the National/ International accredited lab test report for the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab in r/o ruggedness.	The case of the GPS must be ruggedized and IP67 Compliant or better. A certificate must be obtained from firm for IP67.	
30.	**Temperature** **Operating : -20° C to +55° C** **Storage: -20° C to +55° C**	i) The firm has to submit National/ international accredited Lab report / certificate in respect of the same. ii) Check the national/ international accredited lab test report for the same. In case of any doubt in the test report, the veracity of the same may be checked from the concerned lab.	GPS must be operable in Operating temperature:-20°C to ±55°C Storage Temperature : -20°C to ±55°C A certificate must be obtained from firm for the same.	
31.	**Memory Backup** Minimum 16GB inbuilt memory must be provided along with additional memory of 32GB through SD card **Or inbuilt 48 GB memory.**	To be physically checked by BOO.	GPS must have minimum 16GB inbuilt memory along with additional memory of 32GB through SD card Or inbuilt 48 GB memory.	
32.	**Shelf Life** 10 Years	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	An undertaking must be obtained from firm for the same.	
33.	**Warranty** i) Free warranty for 12 months with spares. Firm will provide the spare part for 07 years after expiry of warranty ii) AMC - Optional	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	An undertaking must be obtained from firm for the same.	
34.	**Engineering Support Package** i) Technical literature. ii) Training manual and user hand book. iii) Illustrated spare part list duly priced. iv) Repair manual.	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	An undertaking must be obtained from firm for the same.	
35.	**Operator and Repair & Maintenance level training:-** **i)** Firm will provide operator training to 02 persons @ each equipment for 03 t0 05 days at consignee location.	Firm to provide undertaking certificate in this regard. BOO to check the certificate.	A certificate must be obtained from firm for the same.	

S/No	Parameter/ Specification	Trial Directives	RESULT EXPECTED/ DESIRED	Remarks
	ii) Firm will provide repair & maintenance training to 10 persons for 01 week at firm premises.			
36.	**Kill Button:** The system should have kill switch for erase all data.	To be physically checked by BOO. In emergency condition user may press the kill button to erase all data of the system.	The system must have Kill Button for erase all data.	
37.	**Mil Std**: The system must confirm to the latest Mil STD 810G or JSS 55555 in respect of applicable environmental parameters (low high temperature, humidity, vibration, shock and corrosion)	The Firm has to submit National/ International accredited lab certificate /report for Mil STD 810G or JSS 55555 in respect of applicable environmental parameters, ruggedness. BOO to check the certificate.	A certificate must be obtained from firm for the same.	
38.	**BITE Facility :** The system should have BITE (Built In Test Equipment) facility.	To be physically checked by BOO.	The system must have BITE facility.	

तकनीकी विशेषज्ञों के उप समूह द्वारा यह निश्चित किया गया है कि उक्त गुणातमक आवश्यकता को अधिक बेहतर बनाने के लिए गृह मंत्रालय एवं सीमा सुरक्षा बल की वैबसाईट पर विकेताओं/फर्मो के सुझाव प्राप्त करने हेतु 15 दिनों के लिए अपलोड किया जाए।

नोट – सभी विकताओं/फर्मो से निवेदन है कि अपने सुझावों के साथ निम्नलिखित कागजात संल्गन कर ई–मेल पता comdtord@bsf.nic.in पर भेजने का श्रम करें:–

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

(कपिल चाहर)
उप कमांडेण्ट (आधुनिकीकरण)