

Long Range (HHTI-LR) – Technical Bid Evaluation – Gated Breakdown – High Level

Requirement Types within Technical Bid Evaluation

- Mandatory – Criteria must be met.
- Mandatory with Evidence – Criteria must be met with documentation evidence provided.
- Mandatory – Rated – Minimum criteria must be met. Additional performance beyond minimum will be given bonus points.
- Rated – No minimum criteria. Performance will be assessed and provided bonus points.

Gate 1 – Compliance Matrix

<u>Serial</u>	<u>Spec. Section</u>	<u>Specification Heading</u>	<u>Requirement</u>	<u>Requirement Type</u>	<u>Criteria</u>
1	Multiple	Multiple line items throughout the SRS	(594 line item) Multiple requirements state a Mandatory requirement that require a compliance statement. “Comply” statement to indicate compliance.	All Mandatory	Mandatory – Only a “Comply” compliance statement required from bidder in order to meet requirement.
2	Multiple	Multiple line items throughout the SRS	(59 Line items) Multiple requirements state a Mandatory requirement requiring a “Comply” statement as well as additional evidence required.	All Mandatory With Evidence Required	Mandatory – A “Comply” compliance statement is required from bidder as well as requested evidence document(s) in order to meet requirement.
3	4.9.1.1	Mass (Main System)	The LRF HHTI-LR, including Internal Batteries, must have a mass of less than 2.75 kilograms.	Mandatory - Rated	Will analyze contractor supplied response in compliance matrix for mass provided. Configuration of the LRF HHTI-LR at the time of measurement of mass must include: - All internal components required to satisfy the LRF HHTI-LR Capability Requirements (Section 4.3) - Internal batteries (Section 4.3.12.1) - Lens Covers (Section 4.9.1.4) - Eye Cups (Section 4.9.1.5) - Hand Straps (Section 4.9.1.7) - No external interface cabling

Gate 1 – Bidders must meet all Mandatory Requirements stated above in Gate 1 in order to proceed into the start of Gate 2 Evaluation.

Gate 2A – Capability Performance Testing Evaluations – Lab Testing

<u>Serial</u>	<u>Spec. Section</u>	<u>Specification Heading</u>	<u>Requirement</u>	<u>Requirement Type</u>	<u>Criteria</u>
1	4.3.3.2.1	Thermal Channel – DRI – Vehicle Sized Target QETE Lab Testing	Static Vehicle Sized Target - Three separate line items: Detection – 10 km Range, Recognition – 3.5 km Range Identification – 1.8 km Range	Mandatory - Rated	STANAG 4347 Ranges listed are minimum mandatories Additional Performance will be rated.
2	4.3.3.2.2	Thermal Channel – DRI – Person Sized Target QETE Lab Testing	Static Person Sized Target - Three separate line items: Detection – 5.5 km Range Recognition – 2.0 km Range Identification – 1.0 km Range	Mandatory - Rated	STANAG 4347 Ranges listed are minimum mandatories Additional Performance will be rated.
3	4.3.4.2.1	Secondary Channel – DRI Vehicle Sized Target QETE Lab Testing	Static Vehicle Sized Target - Three separate line items: Detection – 7.0 km Range, Recognition – 3.5 km Range Identification – 1.8 km Range	Mandatory - Rated	QETE DRI performance test methodologies Ranges listed are minimum mandatories Additional Performance will be rated.
4	4.3.4.2.2	Secondary Channel – DRI – Person Sized Target QETE Lab Testing	Static Person Sized Target - Three separate line items: Detection – 3.8 km Range Recognition – 2.0 km Range Identification – 1.0 km Range	Mandatory - Rated	QETE DRI performance test methodologies Ranges listed are minimum mandatories Additional Performance will be rated.
5	4.3.14.1.1	Power Sources Internal Batteries Rechargeable Battery Power Source	Continuous operation for a minimum of four hours in the Operational Mode at 20 degrees Celsius using power only from the installed Rechargeable Batteries, with no battery change, and with no recharging of the batteries, while being operated in accordance with the LRF HHTI-LR Mission Profile - Battery Life	Mandatory - Rated	QETE Lab Test
6	4.3.14.1.2	Power Sources Internal Batteries Low Temperature Battery Power Source	Continuous operation for a minimum of two hours and forty-eight minutes in the Operational Mode at minus 32 degrees Celsius using power only from installed Low Temperature Batteries, with no battery change, and with no recharging of the batteries, while being operated in accordance with the LRF HHTI-LR Mission Profile - Battery Life	Mandatory - Rated	QETE Lab Test Note: Testing will be combined with the Operation Low Temperature Test stated below (6.3.2.3)
7	6.3.2.3	System Environment Requirements Climatic / Natural Environments Operation - Low Temperature	Operation without physical damage and without degradation of performance in all low temperature environments associated with the C0 and C1 (-32°C min) climatic regions as described in NATO STANAG 4370, AECP 200, AECP 230, Leaflet 2311/1 and Leaflet 2311/2.	Mandatory	QETE Lab Test - NATO STANAG 4370, AECP 200, AECP 230, Leaflet 2311/1 and Leaflet 2311/2. A tailored MIL-STD-810H Method 502.7 “Low Temperature”, Procedure II “Operation” (constant temperature exposure) and Procedure III “Manipulation” test will be performed.

8	6.3.3.1	Induced Environments Shock	Operation without physical damage and without degradation of performance following shocks associated with dismounted soldier operations. Operation without physical damage and without degradation of performance following a transit drop.	Mandatory	<p>A tailored MIL-STD-810H Method 516.8 “Shock”, Table 516.8-X, “Tactical Transport Drop Test”:</p> <p>Scenario: Unpackaged Handling Category: Infantry and man-carried equipment Drop height: 1.5m (5ft) Configuration: Unpackaged Number of Drops: on single test item Impact Surface: 5cm (2 inch) thick plywood backed by concrete, tailored as per Note 7</p> <p>Orientations: a) Flat left side – normal to lens face b) Flat bottom – normal to lens face, perpendicular to drop A c) Flat front – onto user’s viewing side d) Right side from edge – impacting corner front surface of lens. e) Lower front edge – impacting front lower surface of lens surface</p> <p>The Bidder’s supplied test article must remain serviceable throughout the test without degradation of performance. This may be assessed by visual inspection and/or other non-destructive test methods and/or conduct of a functional performance check(s).</p>
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Gate 2B – Capability Performance Testing Evaluations – Field Testing

<u>Serial</u>	<u>Spec. Section</u>	<u>Specification Heading</u>	<u>Requirement</u>	<u>Requirement Type</u>	<u>Criteria</u>
1	4.3.2.1	Environments at Night Recognition and Identification Person Sized Target Field Trial Testing	Static Person Sized Target: Through optimization of holistic system performance, the LRF HHTI-LR should, for a trained user, optimize the probability of recognition/ identification under operational conditions at night.	Rated	Note: Recognition and Identification only to be tested Note: Person sized targets only to be tested in field trials.
2	4.3.2.2	Environments at Dusk/Dawn Recognition and Identification Person Sized Target Field Trial Testing	Static Person Sized Target: Through optimization of holistic system performance, the LRF HHTI-LR should, for a trained user, optimize the probability of recognition/ identification under operational conditions during periods of dusk and dawn.	Rated	Note: Recognition and Identification only to be tested Note: Person sized targets only to be tested in field trials.
3	4.3.2.3	Environments During Day-time Recognition and Identification Person Sized Target Field Trial Testing	Static Person Sized Target: Through optimization of holistic system performance, the LRF HHTI-LR should, for a trained user, optimize the probability of recognition/ identification under operational conditions between sunrise and sunset	Rated	Note: Recognition and Identification only to be tested Note: Person sized targets only to be tested in field trials.

Gate 2A & 2B – Gates 2A & 2B will be tested in parallel to expedite timeline, providing bidders are able to provide sufficient equipment (2 Units per Gate = 4 Units + 1 spare unit = 5 Total units)

– Bidders must meet all Mandatory Requirements stated above in Gate 2A in order to proceed into Gate 3 Evaluations.

Gate 3 – User Acceptance Performance Evaluation (UAPE) Testing

The Gate 3 Evaluation will consist of two major trial items listed below, split into 3 separate field events. Human Factors Elements, Human Machine Interface and Conditions of Darkness elements to be evaluated during the below trials and assessed through a user questionnaire directly following the exercise.

<u>Serial</u>	<u>Spec. Section</u>	<u>Specification Heading</u>	<u>Requirement</u>	<u>Requirement Type</u>	<u>Criteria</u>
1	4.10.4.1	Functionality and Ease of Use Primary Functions	Maintenance of a high level of situational awareness, scanning of an area of interest, and speed of detection, recognition and identification of targets	Mandatory - Rated	Main Trial Scenario – Ease of Use To be assessed during a simulated mission exercise.
			Detection, recognition and identification of targets using the Thermal Channel	Mandatory - Rated	Main Trial Scenario – Ease of Use To be assessed during a simulated mission exercise.
			Detection, recognition and identification of targets using the Secondary Channel	Mandatory - Rated	Main Trial Scenario – Ease of Use To be assessed during a simulated mission exercise.
			Geolocation of targets using the Laser Range Finder	Mandatory - Rated	Main Trial Scenario – Ease of Use To be assessed during a simulated mission exercise.
			Display of data on the display	Mandatory - Rated	Main Trial Scenario – Ease of Use To be assessed during a simulated mission exercise.
			Saving and storage of images and videos	Mandatory - Rated	Main Trial Scenario – Ease of Use To be assessed during a simulated mission exercise.
2	4.10.4.1	Functionality and Ease of Use Primary Functions Bullet Swirl Observation Test	Observation of bullet swirls from a 7.62 x 51mm NATO non-tracer round fired from a co-located sniper as it traverses from 300 metres to 800 metres must be acceptable to users under operational conditions.	Mandatory	Will be assessed independently of Ease of use and Simplicity exercises.
3	4.10.4.5	Simplicity	Must allow a new HHTI user to be instructed on the primary functions of the LRF HHTI-LR and be able to use the primary functions, referencing the Quick Reference Guide as necessary, after no more than one hour of instruction.	Mandatory - Rated	Main Trial Scenario – Simplicity

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Specification elements below to be evaluated physically during the above noted trials, but to be assessed via a questionnaire directly following the trial completion.

1	4.10.2.1	Human Factors Engineering Requirements	Must be compatible with a user wearing Cold Wet Weather Gloves, NSN 8415-21-920-9019	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
		Gloves	Assembly of the LRF HHTI-LR into a configuration where the LRF HHTI-LR is mounted on the Tripod and interfaced to an external power source must be compatible with a user wearing Cold Wet Weather Gloves and without the use of special tools	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
			Must be acceptable to users wearing Cold Wet Weather Gloves in operational conditions.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
2	4.10.2.2	Human Factors Engineering Requirements	Must be compatible with a user wearing a CM735 Ballistic Helmet, NSN 8470-21-912-7719	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
		CM735 Ballistic Helmet	Must be acceptable to users wearing a CM735 Ballistic Helmet in operational conditions	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
3	4.10.2.3	Human Factors Engineering Requirements	Must be compatible with a user wearing Ballistic Eyewear, NSN 8465-20-001-4355	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
		Ballistic Eyewear	Must be acceptable to users wearing Ballistic Eyewear in operational conditions	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
4	4.10.2.4	Human Factors Engineering Requirements	Must be compatible with a user wearing a C5 AirBoss Low Burden Mask (CBRN mask), NSNs 4240-20-011-8190, -8191, -8192, -8193 and 4240-20-012-6039, -6040, -6041, -6042	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
		C5 AirBoss Low Burden Mask	Must be acceptable to soldiers wearing a C5 AirBoss Low Burden Mask in operational conditions.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
5	4.10.3	Compatibility with Use under Conditions of Darkness	Must have external controls whose arrangement, size and shape can be identified and manipulated by the user using only the sense of touch.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
			Must have external controls whose arrangement, size and shape can be identified and manipulated by the user using only the sense of touch while wearing Cold Wet Weather Gloves.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.

			During conditions of total darkness, assembly of the LRF HHTI-LR into a configuration where the LRF HHTI-LR is mounted on the Tripod and interfaced to an external power source must be compatible with a user wearing Cold Wet Weather Gloves and without the use of special tools.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
6	4.10.5	Human Machine Interface	When used in the Operational mode, the LRF HHTI-LR physical controls (including buttons, knobs, toggle switches, joy sticks or other controls) used in the human machine interface must be accessible by the user without the necessity of moving a hand in a way that affects the stability of the device.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.
			Must have physical controls that are positioned such that their manipulation does not interfere with continuous surveillance by the user when the LRF HHTI-LR is being held in two hands.	Mandatory	Will be assessed via a User Questionnaire directly following ease of use exercise.

LRF-HHTI-LR – Technical Evaluation Process Draft Timeline

